The Pedagogical Seminary

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/vzps20>

Tonsils and Adenoids: A Study Showing how the Removal of Enlarged or Diseased Tonsils and Adenoids Affects a Child's Work in School

A. H. Macphail

Published online: 30 Aug 2012.

To cite this article: A. H. Macphail (1920) Tonsils and Adenoids: A Study Showing how the Removal of Enlarged or Diseased Tonsils and Adenoids Affects a Child's Work in School, The Pedagogical Seminary, 27:2, 188-194, DOI: [10.1080/08919402.1920.10532848](https://doi.org/10.1080/08919402.1920.10532848)

To link to this article: <http://dx.doi.org/10.1080/08919402.1920.10532848>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

TONSILS AND ADENOIDS: A STUDY SHOWING HOW THE REMOVAL OF ENLARGED OR DIS- EASED TONSILS AND ADENOIDS AFFECTS A CHILD'S WORK IN SCHOOL

By A. H. MACPHAIL

Part 1—In recent years much has been said and written about the physical defects from which children suffer, especially those defects that are remediable. Dr. L. Emmett Holt estimates that one-third of the school children in this country have remediable physical defects and this means from seven to eight million children.¹ Terman has estimated that ten per cent of our school children are suffering from the ill effects of tonsils and adenoids alone.²

The investigation presented here is concerned with the problem of tonsils and adenoids. It is not necessary to enumerate the many harmful effects that enlarged or diseased tonsils and adenoids have upon the child. The particular ill effect upon which this study focuses its attention is the quality of work done in school by children who are afflicted with abnormal tonsils and adenoids and it seeks to prove its point by comparing the quality of work that certain school children have done after having these tonsils and adenoids removed with the work that they were doing before the operation was performed. The physiological and psychological aspects of the problem are not touched upon but facts are presented to show that in the cases that have been investigated, it is true that children are capable of doing better school work after tonsils and adenoids, enlarged or diseased, have been removed.

The pupils whose school records, before and after having their tonsils and adenoids removed, were investigated were pupils in the Adams and Cranch Schools. The school nurse, Miss Marion Jackson, supplied the names of children who had been operated upon through her co-operation together with the date of the operation. Information was also obtained concerning others who had been operated upon independently of the school nurse.

In order to reach a fair estimate of the quality of work that

¹ See "Democracy for Children," by Dr. L. E. Holt, Goodhouse-keeping, May, 1919.

² See "The Hygiene of the School Child," by L. M. Terman, Houghton-Mifflin.

these pupils had done before they were operated upon all those cases were discarded for which there was not available a school record of ten months before the date of the operation. Similarly all cases were discarded where no record was available for at least ten months after the operation. It was then found that both schools offered thirty-one cases that were considered worthy of investigation.

The first step was to look up the school record of each of these thirty-one cases for the ten school months immediately preceding the date of the operation. Following this, the school record of each case was looked up for each school month subsequent to the date of the operation up to the time when any given pupil left either of these schools for any reason, or up to the date of compiling this report in the case of pupils who were still attending school. As might be expected, it was possible to get a much longer school record after the operation for some pupils than for others.

In order to discover, if possible, just how soon after the operation the child began to do work of a higher grade than he had done before the operation, the history of each case was divided into periods of ten school months each. This term "period" will be often used in this discussion and will always mean a group of ten consecutive school months. It will be noticed that these periods are referred to as "the period before the operation," and the first, second, or third "period after the operation." Eighteen cases presented school records of at least twenty months after the operation, and a separate study was made of these. Similarly, eleven cases having a thirty month record after the operation offered an especially valuable study because of the opportunity to observe results over this longer period of time.

When the average that each of the thirty-one pupils attained in the first period after the operation was compared with his average for the period just before the operation, it was found that only about one-third (32.2%) of the cases showed an improvement and a little over a half of all the cases were doing a poorer quality of work! As is indicated a little later in this study, this poor showing in the first period after the operation is doubtless to be explained as an effect of the operation with consequent psychological impairment. By comparing an average of *all* work done subsequent to the operation with what was done before it became evident that improvement in school work is not often observed until after a year from the date of the operation.

When it had been conclusively shown that improvement was to be expected in the first period in only a few cases, it

190 TONSILS AND ADENOIDS AFFECTING CHILD'S SCHOOL WORK

was naturally looked for in some later period. It became necessary then to make a very careful study of those cases that had longer school records after the operation. The eighteen cases that had records for twenty months (i. e., two periods) were investigated. Sixteen out of the eighteen records show that better work was done in the second period after the operation than in the first period after the operation. In other words about nine-tenths are able to do better work during the second year after the operation than during the year immediately following their operation. This fact corroborates what has already been suggested, namely, that in about two cases out of three, it takes the pupil about a year before the benefits of the tonsil and adenoid operation have produced such an improvement in the physical being of the child as to enable him to do better mental work. The results just mentioned show that nine-tenths of the pupils studied begin to reap physical and consequently mental benefits from their operation sometime *during the second year* after their operation.

TABLE A
TABLE SHOWING WHEN IMPROVEMENT BEGINS

	Per cent of Cases Showing Improvement		
	Period 1	Period 2	Period 3
Based on 31 cases	32.2		
Based on 18 cases	33.3	66.6	
Based on 11 cases	36.3	63.5	100
Based on all groups	33.9	65.	100

Table A presents an epitome of the information that was sought. It answers the questions that prompted this study. Recall at this point that "improvement" implies increase over pre-operation averages. Basing its conclusions on all the group studies that have been made, we find that 33.9% of all the cases do better work during the first year after the operation; 65 % do better work by the end of the second year; 100% do better work by the end of the third year (this last conclusion based on eleven cases). These conclusions are not based upon theory or estimates, but are derived from actual cases as a perusal of the tables and diagrams presented in this study show. It is hoped that having their foundation in fact, they may be of some value.

Part 2—The conclusions drawn in Part I of this study may very well be questioned on the ground that the comparisons

made are kept entirely within the group. In other words, the study concerns itself only with children who have had their tonsils and adenoids removed. If a similar study were undertaken having as its subjects school children taken at random except with the exclusion of those children dealt with in Part 1, and similar results were found to be true in this second group, then the conclusions of Part 1 would be without significance. If a large number of children at random improve from year to year in the same manner that children who have had their tonsils and adenoids removed improve, then the actual removal of the diseased tonsils and adenoids drops out of the situation as a controlling factor. Hence, to test the validity of the conclusions stated in Part 1, this second investigation, which may be called a check experiment, was made.

To get data for this check experiment a total of one hundred children was selected from the Adams School and the Cranch School. Since it was necessary to secure their records for each of four consecutive school years, it is obvious that these children had to be taken from the fifth, sixth, seventh, and eighth grades. As in Part 1, in order to discover how many improved in the quality of their work and when, the rating of each case for the first year was considered as zero, in the sense that with it each of the second, third, and fourth years was compared. For example: Case 21 was doing the same kind of work in the second, third, and fourth years as was done in the first. Case 32 did better work in the second, third, and fourth years than was done in the first. Similar comparisons were made for each of the one hundred cases taken at random. The results of this investigation showed that in the second year 42% of these children at random did better work than in the previous year, namely, the first year. In the third year 41% were doing better work than they did in the first year, and in the fourth year 41%. Note that the per cent of cases that showed improvement is practically the same for each year, 42%, 41%, 41%.

At this point it will be necessary to adopt certain terminology that was used in the previous study. The term 'period' means a school year of ten months. Using the first year records of these one hundred children as the norm with which the three subsequent years are each to be compared, the second year will be referred to as the first period, the third year as the second period, and the fourth year as the third period. It is now possible to compare the manner in which pupils who have been operated upon for tonsils and adenoids have improved in their school work with the manner in which

children at random improve. Refer to Table B for this comparison.

TABLE B

TABLES SHOWING HOW TIME OF IMPROVEMENT OF "OPERATED CASES"
COMPARES WITH IMPROVEMENT AMONG CHILDREN AT RANDOM

		1st Period	2nd Period	3rd Period
A	Per cent of 31 cases (operated upon)	32.2		
	Per cent of 100 children at random..	42.		
B	Per cent of 18 cases for 30 months (operated upon)	33.3	66.6	
	Per cent of 100 children at random..	42.	41.	
C	Per cent of 11 cases for 40 months (operated upon)	36.3	63.5	100
	Per cent of 100 children at random..	42.	41.	41.

The conclusion reached in Part 1 that pupils who are suffering from the ill effects of diseased tonsils and adenoids are made capable of doing better school work by being operated upon seems to be quite justified by the results of this check experiment. Part A of Table B agrees with what was stated in the previous study, that immediately after the operation, there seems to be a dropping off in the quality of school work done, and it is here seen that 42% of pupils at random improve in this period where only 32% of the thirty-one operated cases show any improvement. The validity of the conclusion reached in regard to ability to improve rests then upon Parts B and C. Disregarding a very slight variation of 1%, it has been shown that the percentage of children at random who improve from year to year remains practically static, while among the pupils who have been operated upon for tonsils and adenoids there has been shown to be a pronounced increase from year to year in the percentage of pupils who improve in the quality of their work. Generally speaking one-third of the operated cases improve in the first period, two-thirds in the second period, and three-thirds in the third period. Over against this we have the fact that of the children at random two-fifths improve in each of these three periods. This same data is presented graphically in Table C where the *horizontal* dotted line representing the per cent of pupils at random who improve from period to period is in striking contrast to the mounting steps which indicate the increasing number from period to period who improve among the operated cases. Among school children at random the number who are doing better work than at some given pre-

vious time *remains practically the same* from year to year. Among children who have had their tonsils and adenoids removed the number who are doing better work than before

TABLE C

the operation *increases rapidly* from year to year, and when two years have passed *exceeds* the number of children at random who improve.

SUMMARY

This study was undertaken to discover how the removal of enlarged or diseased tonsils and adenoids affects a pupil's work in school. The school records of thirty-one pupils were investigated, both before and after the date of the operation, and such comparisons were made as would show whether a pupil's work improved and when that improvement became evident.

The results of the study may be expressed as follows: of fifteen school children taken at random from among their associates, six may be expected to be doing better work one

year from now, six may be expected to be doing better work two years from now, and six three years from now! But of fifteen children who have just been relieved of diseased tonsils and adenoids, five may be expected to be doing better work one year from now, ten at the end of two years, and all (or very nearly all) when three years have passed. Here seems good reason to believe that the removal of diseased tonsils and adenoids is a factor in beneficially influencing the mental life of the school child. Not only is the health impaired by failure to remove these diseased parts but the mental life and activity of the child as well.