



out in the summer of the year preceding. It became necessary in the absence of adequate hospital and isolation facilities to segregate the cottage group, making each cottage a unit in itself. No communication of any sort between these groups was allowed. As a result, many functions of the school requiring assembly were interrupted. The disease finally disappeared upon the approach of warm weather and after an isolation camp was established at a distance from the center of activity." Another large institution for children reports: "There has been rather more than the average minor sickness this year—mumps and chicken pox have formed an annoying complication to the medical staff, but no serious setbacks resulted." Still another reports: "In mid-winter of 1916 an epidemic of colds and la grippe kept the hospital department filled with temporary cases. At one time, in January, fifty boys, or one-fifth of the enrollment, were in bed in the hospital. This trouble soon abated, however, and the remainder of the year has shown only occasional instances of minor ailments."

It is very interesting to note that no progress from a dental viewpoint has been reported in any of these institutions in the last three years. In fact, the 38th report of the State Board of Charity contains no reference whatever to dental work.

A review of the first annual report of the Massachusetts Commission on Mental Diseases disclosed at least a desire for improving the dental conditions in our institutions for the insane. An extract from the report of the superintendent of one of our insane hospitals, quoting the amount of work done by the visiting dentist offers this suggestion: "That our patients have need of the constant attendance of a dentist and it is hoped that we may be able to extend the service to full time instead of two half days a week as at present." Another superintendent is quoted in this report as follows: "The teeth of the majority of our patients are in a deplorable condition and I again recommend that a resident dentist be added to our force and that \$800 be appropriated for that purpose." A general statement under the heading, "Progress in Institutions," states that "practical dental work has been largely increased in several hospitals." This report, then, shows that some definite steps have been taken in the right direction.

In state prisons and reform schools, conditions at present show a decided improvement over those previously reported, but there is still room for greater improvement as the following quotation from a superintendent's report will show: "The oral conditions of the inmates are very poor, and as the dentist gives only one day a week it is not possible for her to see each woman as she is admitted and treat all cases thoroughly."

In lying-in hospitals affairs are still in the old chaotic state.

Let us consider now conditions in general hospitals. It is true that dentists have been appointed to the staffs of many of our hospitals; but the work done by them, in most cases, is purely emergency, and not much of that. The out-patient clinics of these hospitals are still continuing the splendid work which they have always done. But real coöperation of dentist with surgeon and medical man,—for example, in preparing patients' mouths before laparotomies where possible,—not as yet exist.

In institutions for the care of tuberculosis there is still agitation for dental work, but little has been accomplished.

In state industrial schools, orphan asylums, etc., conditions are deplorable. Spasmodic attempts at improvement have been made, without any evident progress. Most of these institutions have a visiting dentist who "stops a tooth-ache or pulls a tooth when needed." Systematic dentistry, where each child is examined carefully and all decayed teeth extracted and all carious cavities filled, does not at present exist. It seems that the mere appointment of a visiting dentist to the staff of one of these institutions covers the law and conveys the impression that the institution is showing a lively interest in the care of its inmates. But investigation would prove conditions similar to those found elsewhere.

From this brief analysis of dental conditions one is forced to conclude that there has been very little interest or progress in the majority of our public institutions.

Is it possible, then, that the modern theory of focal infection is wrong? Surely, superintendents and physicians in our public institutions are not familiar with its importance if they persist in neglecting the mouths and teeth of those under their charge. Granted that they do believe in focal infection, do they feel that

these patients are receiving adequate protection if they neglect their dental care?

The one encouraging report of all these is found in institutions for the insane. An example of the possibilities for improvement in this direction may be found in the Medfield State Hospital. My examination of the inmates at this hospital, in April, 1915, disclosed the following conditions:

Total number of patients examined.....	1697
Number of cases of pyorrhoea.....	330
Number of cases of patients needing extraction .....	680
Number of cases of acute alveolar abscesses .....	72
Number of patients with carious teeth...	150
Number of patients in need of both upper and lower dentures.....	270
Number of patients in need of full upper dentures .....	201
Number of patients in need of full lower dentures .....	30
Number not examined.....	28
Number of cases needing cleaning (all with the exception of two and those edentulous patients)	
Number wearing plates.....	40
Number of cases of stomatitis.....	30
Number of cases of cleft palate.....	1
Number of cases of harelip.....	1

My report to the trustees which followed offered the following remedial suggestions:

1. A resident dentist, or
2. An increase in the hours of the visiting dentist, or
3. Two visiting dentists.
4. Examination and tabulation of work by the card index system.
5. A supply of tooth-brushes and powder, and the enforced use of the same.
6. That extraction be done before any other work.
7. That the use of emetin hydrochloride for pyorrhoea be discontinued at the hospital.
8. That edentulous patients be supplied with plates.
9. A new equipment for the dental infirmary.
10. The assignment of two nurses as assistants to the dentist.
11. Lectures to nurses on the importance of dental hygiene.
12. The training of one nurse to clean teeth.

Of these twelve suggestions, all of the most important ones were carried out to the letter. The institution has now had a resident dentist for over two years, and this is the only possible way in which the teeth of the inmates of large institutions can receive proper attention. The card index system has proved very valuable. Tooth brushes and powder have been more abundantly supplied than ever before. Extraction has been done on all patients first, and plates are gradually being supplied to edentulous patients. We have at present a well-equipped dental infirmary.

The twelfth suggestion, relative to the cleaning of teeth by a nurse, has not as yet been carried out. After careful consideration of the matter I purposely discouraged it. Some of our institutions which have visiting dentists have employed the so-called dental hygienist to clean teeth. This is certainly a most illogical procedure, unless such an institution has also a resident dentist who has first completed all necessary extractions and fillings. For surely it is a waste of time to clean the teeth of patients who have dirty roots, broken down teeth, abscesses and cavities, without first remedying these defects. When all these diseased conditions have been remedied, then the cleaning of teeth is purely a hygienic measure. In Medfield, after two years' trial of resident dentists, who accomplished an enormous amount of dental work, we still find enough of the important work—extracting, filling, etc., to keep us occupied indefinitely. Under these conditions, then, a dental nurse wholly occupied in cleaning teeth in a large institution, while the visiting dentist spends but one or two mornings a week doing emergency work, is an absurdity and a waste of time. From a financial viewpoint, also, there is no basis for the employment of a dental nurse. A dental nurse receives, I understand, \$40 a month and maintenance. The visiting dentist, for one or two mornings a week, receives \$10 compensation per week. Therefore, the yearly salary of both is \$1,000, which is more than the resident dentist at Medfield receives for full time work. To recapitulate, then,—until such time as every institution employs a resident dentist, and until we have eliminated the enormous amount of septic conditions in patients' mouths, the dental nurse is purely ornamental. As a teacher of general dental hygiene, or as an officer to enforce the use of the toothbrush she might be of some use, but, even then, not much more so than any competent nurse or attendant.

A report of dental work done by our first resident dentist at Medfield for one year is as follows:

Dear Dr. Keyes:

I have been requested by the Superintendent, Dr. Cahoon, to submit to you for examination a report of the dental work accomplished in the past year, and the present conditions in the Medfield State Hospital. The chart system and the individual cards have been followed out, which show precisely the present conditions as compared with those of a year ago.

The conditions I found here were very discouraging. The old office was situated in the B-1 ward. The room contained, among many other things, an old plush chair, a broken, old-fashioned foot-engine, a small bedroom table with about a dozen ancient operative instruments and an oil lamp with a rusty pan for sterilization.

I immediately furnished the place with all of my personal instruments, both operative and laboratory, which I had fortunately brought with me and which were absolutely necessary to accomplish any work at all. This office was used from September 1st until December 1st, when the new office in the infirmary was opened. I have endeavored to equip the new office in a practical and attractive manner, which now contains the following furnishings so necessary to accomplish the great body of work continually presented:

- a. An electric engine with slip-joint hand pieces.
- b. A "Harvard" dental chair.
- c. A "Clark" fountain cuspidor.
- d. An aseptic bracket table.
- e. A new "Harvard" instrument cabinet.
- f. An electric sterilizer.
- g. A bracket dental light for operative work.
- h. A novocain jar for sterilization of cups and syringes.
- i. A desk where records are filed.
- j. Rug, screen, couch, chair, chair coverings, sanitary cups, mirror, hat rack, dental napkins, etc.

In the basement a work bench has been furnished and I have equipped same with all necessary laboratory apparatus. It was at first considered an impossibility to accomplish much among this class of patients in this particular work, but contrary to expectations, the results have surpassed by far even our greatest hopes. The patients have been eager to obtain any dental treatment possible and prove their interest by their coöperation in the work in the wards, their promptness in appointments at the office, their conduct in the chair and their enthusiasm and extreme gratification for the work done for them. Some of the most violent patients have conducted themselves in a decidedly unexpected and actually excellent manner in the dental treatment.

The greatest part of the year has been spent in treating the patients suffering from acute alveolar abscesses and swollen painful teeth. Such cases are reported daily by the visiting physician and these are given immediate attention, thus eliminating the unnecessary suffering and possible facial disfigurement in awaiting the arrival of the day when the visiting dentist would come.

Novocain has been used for extractions and ether resorted to when necessary. The need of a nitrous oxide and oxygen apparatus is great, as too much unnecessary suffering is forced upon the patients and extra labor upon the dentist without this anaesthetic.

Scaling the teeth, the first and greatest necessity, has been done in the active cases of pyorrhoea.

Tooth powder is supplied in large cans to each ward and the charges instructed to have them filled when necessary. Collapsible tin tubes have been furnished and filled with tooth paste, this form being better appreciated by the female and younger patients. These tubes also are refilled and returned to the patients.

When actually necessary, attendants are allowed first aid treatment and extractions. This factor also eliminates the necessity of losing them from their work and the unnecessary inhuman treatment imposed upon them in endeavoring to find relief by travelling three or more miles to some surrounding town, trusting to find a dentist who would give them attention.

Plates can now be furnished and repaired at a very small expense. Ill fitting plates are found in the mouths of some of the most violent patients who often do not wish to give them up temporarily for

repair in fear that they will never have the use of them again. Many patients have only one plate while the opposite jaw contains no teeth or plate to articulate with, but they still manage to retain them even in such condition.

Visiting dentists in the past have been paid \$10.00 per day and expenses. Only emergency cases were then treated as the preceding dental conditions allowed only such work. A plate or crown made for a patient was considered a special case for which the dentist was paid, in addition, the usual fee of twenty or twenty-five dollars for the former and eight or ten dollars for the latter. Plates and crowns are now furnished at a minimum cost; the output of plates and repairs justify in this one factor alone the economy and satisfaction evidenced in the daily work as a resident dentist.

All boarding out patients are brought in by the social worker to the institution for dental treatment and the necessary work done for them as for the regular hospital patients. The present conditions and the success of the past year give me confidence and I expect to meet successfully the great amount of work ahead.

I wish to express my appreciation for the co-operation and interest of the Superintendent, Doctor Cahoon, and the members of the staff in the work which I have undertaken with them.

I also wish to express my appreciation to you, particularly for the untiring effort you have shown in the past three years to better the oral conditions not only in this institution but in all other institutions throughout the state.

The statistics of dental work done by me are as published below:

Total number of patients examined.....	1697
Number of extractions	
Female side.....	2730
Male side .....	1434   4164
Number of acute alveolar abscesses treated and cured.....	58
Number of cases treated of chronic suppurative alveolar abscesses discharging externally through fistula.....	8
Number of cases of pyorrhoea treated...	59
Number of fillings inserted in carious teeth .....	383
Number of exposed pulps, removed by pressure anaesthesia.....	30
Number of root canal fillings.....	79
Number of patients supplied with full upper dentures.....	39
Number of patients supplied with full lower dentures.....	14
Number of plates repaired.....	64
Number of patients resisting.....	0
Number of fractures.....	0
Number of gold crowns made.....	8
Number of bridges.....	4 tooth 5 tooth 1
Number of artificial replacements for attendants through accidents by patients .....	4
Number of cases of stomatitis treated..	25
Number of cases of cleft palate.....	1
Number of cases of hair lip.....	0
Number of prophylaxis given.....	524
Number of cases of amputation of diseased root ends.....	2
Number of cases of diseased maxillary antrum .....	1
Various emergency cases at all times for odontalgia and neuralgia.	

Respectfully submitted,

JOHN D. THOMAS, D. M. D.

Resident Dentist.

The progress in dental conditions noted by Dr. Thomas in his report is very encouraging

and shows the hearty coöperation which the trustees and superintendent are extending to the resident dentist. Dr. Thomas was commissioned in the United States Army Dental Corps and resigned from Medfield October 5, 1917. He was succeeded by Dr. Schlichte, whose work was as follows:

Number of extractions.....	910
Number of acute alveolar abscesses treated and cured.....	22
Number of cases treated of chronic suppurative alveolar abscesses discharging externally through fistula.....	2
Number of cases of pyorrhea treated...	71
Number of fillings inserted in carious teeth.....	55
Number of exposed pulps, removed by pressure anaesthesia.....	8
Number of root canal fillings.....	11
Number of patients supplied with full upper dentures.....	19
Number of patients supplied with full lower dentures.....	8
Number of plates repaired.....	21
Number of patients resisting.....	1
Number of fractures of mandible.....	1
Number of gold crowns made.....	0
Number of bridges.....	0
Number of artificial replacements for attendants through accidents by patients.....	5
Number of cases of stomatitis treated...	5
Number of prophylaxes given.....	195
Number of cases of amputation of diseased root ends.....	0
Number of cases of diseased maxillary antrum.....	0
Various emergency cases at all times for odontalgia and neuralgia....	1

Dr. Schlichte resigned March 20, 1918, and also entered the Army. He was succeeded by the present resident dentist, Dr. William A. Milliken.

Added to the statistics of Dr. Wade, who was appointed visiting dentist in 1915, while the question of a resident dentist was being considered, we find the following grand total of work done in the last three years:

Number of extractions.....	7355
Number of acute alveolar abscesses treated and cured.....	93
Number of cases treated of chronic suppurative alveolar abscesses discharging externally through fistula.....	10
Number of cases of pyorrhea treated..	71
Number of fillings inserted in carious teeth.....	445
Number of exposed pulps, removed by pressure anaesthesia.....	38
Number of root canal fillings.....	90
Number of patients supplied with full upper dentures.....	58
Number of patients supplied with full lower dentures.....	22
Number of plates repaired.....	85
Number of patients resisting.....	1
Number of fractures of mandible.....	1
Number of gold crowns made.....	8
Number of bridges.....	4 tooth 5 tooth
	1

Number of artificial replacements for attendants through accidents by patients.....	0
Number of cases of stomatitis treated....	30
Number of prophylaxes given.....	767
Number of cases of amputation of diseased root ends.....	2
Number of cases of diseased maxillary antrum.....	1
Various emergency cases at all times for odontalgia and neuralgia	
Number of cases of necrosis of mandible	1

My last examination of the patients at Medfield showed the following conditions:

	April, 1918
Number of cases of pyorrhoea.....	203
Number of cases of patients needing extraction.....	160
Number of cases of acute alveolar abscesses.....	0
Number of patients with carious teeth...	41
Number of patients in need of full upper dentures.....	166
Number of patients in need of full lower dentures.....	49
Number of patients in need of both upper and lower dentures.....	301
Number not examined.....	6
Number of cases needing cleaning.....	426
Number wearing plates.....	89
Number of cases of stomatitis.....	5

If, after two years of intensive treatment by resident dentists the Medfield State Hospital presents this amount of work still to be done, surely institutions which have not as yet employed a resident dentist must be held responsible for gross neglect. What are we to expect from these institutions in the future? Will they follow the example set by Medfield, or will they remain on their old haphazard, impractical basis? The present slipshod individual work which is being done by institutional dentists, however well intentioned, will never be successful until it is thoroughly unified, supervised and systematized.

### NECK INJURIES.

BY HERMAN W. MARSHALL, M.D., BOSTON.

THE following selected cases will serve to illustrate certain obscurities still to be found among injuries of the neck; and a brief discussion of a few points in diagnosis and treatment follows the clinical histories given.

Case 1. A 47-year-old farm laborer was thrown from a wagon and landed against a wooden framed gate covered with wire netting. He cut his forehead and had the scalp wound sewed up within a few hours. He was not rendered un-