

ments were devised for the removal of these deposits, admirably suited to the purpose for which they were intended.

There is one important fact in relation to this disease which does not seem to have received the attention which it deserves, and this is the anatomical relation of the parts. When we examine the tooth joint we find that it is the poorest joint in the body, being a peg joint. It, furthermore, has two systems of circulation, both of which are terminal. If we bear this fact in mind, it will be readily seen that anything that interferes with the circulation, which is here very easily interfered with, would furnish a point of least resistance for the invasion of any form of bacteria. When infection once gains entrance at the junction of the gums with the teeth it is likely to progress until it invades the alveolar process, and then we have alveolar abscesses in one or more places. If this factor of a point of least resistance at the junction of the gums and teeth is taken into consideration, the successful treatment of this disease would not seem to depend upon any combination of chemicals in the form of tooth or mouth washes, or upon any particular device for removing tartar from the teeth. In the treatment, it is necessary to follow the lines of the treatment of similar diseases in other parts of the body.

It is necessary to give drainage to the collection of pus, as you would to pus in any other part of the body. After the drainage is established, the action of the leucocytes will prevent the extension of the disease, but where the circulation is so poor, as it is very likely to be in gums affected with pyorrhea, the effect of the leucocytes upon the bacteria is necessarily very limited. While there may have been cases of pyorrhea among our ancestors, it can be confidently stated that the disease was not at all prevalent, and that it is undoubtedly due to modern methods of living, and modern cooking. Our ancestors lived upon coarser food, and used their teeth to masticate their food, rather than as ornaments, therefore they did not suffer to any extent from this disease.

The old man who picked out, by preference, the dry crust of bread, and used his teeth to crack nuts finally wore his teeth out, but he did not suffer from pyorrhea, or even decayed teeth.

Modern cooking prepares food in such a way that the average individual does not see the necessity of masticating the food. If he does use his teeth for that purpose, he does it as a part of some cult. The consequence of this is, that the teeth are not properly nourished; the circulation in the gums is poor, and the gums are not able to resist disease. We must remember here, as elsewhere in the body, that the individual cures himself. If the circulation is good the leucocytes take care of the bacteria, and the disease will be overcome.

If the circulation cannot be improved, the

disease will gradually progress: An illustration of this is furnished by the tooth which does not have another tooth with which it articulates; such a tooth rises up and becomes loose, and the circulation in the gums is so poor that it furnishes a culture ground for different forms of bacteria. Even these teeth can be improved, if an artificial tooth is furnished with which it can articulate. The tooth is pushed back into the socket by the act of mastication, the circulation improves, and the tooth becomes firm again. Of course all of the different methods of treatment have a beneficial effect, but until the circulation has been improved, the disease will recur again and again. I am in the habit of advising my patients to use a tooth brush on their gums, rather than on their teeth. This practice may at any rate temporarily improve the circulation. I am not at all sure that the old habit of gum chewing, which is now taboo in polite society, may not be a solution of the problem.

At any rate, we must do something to improve the circulation of the teeth, and gums, if we expect to retain our teeth, otherwise nature will take care of them as it does of other useless organs.

#### A FURTHER WORD ON THE STERILIZATION TREATMENT OF FURUNCULOSIS.

By JOHN T. BOWEN, M.D., BOSTON.

In the *Journal of the American Medical Association* of July 16, 1910, I published a brief notice of a simple method of treating furunculosis, which had proved effective in my hands in a large number of cases, including many in which the treatment by injection of vaccines had failed utterly. Starting with the premise that all furuncles are local and caused by the inoculation and auto-inoculation of pyogenic staphylococci, and are not produced by infection from within, the principle of this treatment is simply to keep the skin as far as possible sterile; as free from microorganisms as it is endeavored to maintain it in abdominal surgery. In order to effect this, the patient is directed to take a hot bath morning and night, scrubbing the whole body, including the head, while in the bath, with soap. It is best to use for this purpose a wash-cloth or a piece of flannel. This part of the treatment, I insist, must be done with the greatest care and regularity. After this thorough washing with soap and hot water, the skin is dried, and the whole surface again bathed, this time with a saturated solution of boracic acid in water, with the addition perhaps of a small proportion of camphor water. Although boracic acid is reputed to be a feeble germ-killer, my experience is that it is very effective in the case of pyogenic cocci that infest the skin, and it has the great advan-

tage of being entirely unirritating. Irritating antiseptics are to be carefully avoided in cases of pyogenic infection of the skin. After bathing thoroughly with the saturated boracic acid solution, the skin is not to be wiped, but allowed to dry as it is. Then the individual furuncles are treated by dressing them with the following ointment spread on cotton or linen and bound lightly on: viz.

Boracic acid	4.
Precipitated sulphur	4.
Carbolated petrolatum	32.

This procedure, thorough bathing and soaping, the application of the borated solution, and the dressing of the individual furuncles, is repeated, as has been said, *morning and night*. A further point of vital importance relates to the clothing that is worn next to the skin. *Every stitch of linen worn next to the skin* should be changed daily, and in the case of extensive furunculosis all the bed clothing that touches the individual, as well as the night clothing, should be subjected to a daily change.

This treatment has been uniformly successful in my hands in the treatment of the more or less chronic condition described as furunculosis, which means the repeated outbreak of furuncles, either singly or in numbers, extending over a period varying from several weeks to many months and even years. It cannot be claimed that this treatment at the beginning is a sure preventive of any further trouble. Nevertheless I have as yet seen no instance in which, where it was faithfully carried out, relief was not obtained within a reasonable time. Often, indeed, the succession of boils is interrupted at once. In other cases a few abortive lesions of small size may appear before the cure is complete. Naturally, this treatment must be continued for several weeks after the last evidence of pyogenic infection has appeared, and this fact must be emphasized to the patient at the outset. Many of the cases that have been referred to me have been treated repeatedly with injections of vaccines, in some instances with an apparent tendency to increase the lesions.

It may be objected that this treatment cannot be easily carried out. It certainly requires care and regularity, as it will fail unless scrupulously adhered to. The chief absorption of time is that required for a morning and evening bath. This is not too much to ask of a sufferer from an annoying and painful affliction, and my experience shows that it is gladly complied with by those seeking relief from a long course of eruptions. Most of the cases that have been treated by me are those in which the affection has been progressing for a considerable time, and who are willing to take almost any amount of trouble to obtain relief. Some writers, among others Riehl, have objected to bathing and to the use of antiseptic lotions in furunculosis as tending to spread the infection by transferring the microbes from one part of the skin to an-

other. This can be true only of a very careless and insufficient bathing, or application of the antiseptic, and could be just as logically used as an argument against every surgical employment of soap and water.

With regard to the treatment of individual boils in general, it is not my purpose to speak here. The various procedures recommended and adopted are many. The ointment that I have given above has proved, in connection with the general sterilization, an effective application, but doubtless other combinations may be equally good. Poulticing to any extent is certainly to be avoided as tending to favor the soil in which the staphylococci are implanted, and very early incision is unnecessary and harmful, if it has to be followed by close-fitting dressings.

The success that has seemed to me to be obtained by this simple procedure has led me to call attention once more to its merits. It has also proved effective in the hands of various physicians, who have so assured me by word of mouth or by letter. Dr. E. P. Joslin makes mention of it in his recent book on the Treatment of Diabetes Mellitus, an affection that so often produces the peculiar and obscure individual susceptibility that makes one's skin vulnerable to the staphylococci. He tells me that he has had a good many diabetic patients with more or less furunculosis, under his care, who have been greatly helped by this treatment. Other physicians who have adopted with enthusiasm the vaccine treatment, regard cases that do not respond to it as incapable of relief by any other method. It is to such as these that I appeal for a trial of thorough sterilization.

### Clinical Department.

#### TREATMENT OF PERFORATED ULCER OF THE STOMACH WITH THE DUODENAL FEEDING TUBE.

BY LESTER C. MILLER, M.D., WORCESTER, MASS.

[From the Surgical Service of The Memorial Hospital, Worcester, by courtesy of Drs. L. F. Woodward and William Rose.]

#### REPORT OF CASE.

Mr. F. is a civil engineer of about 55 years, married and the father of children; he has followed his profession wherever it took him, sometimes into the tropical parts of Central America; but so far as could be determined, neither climate nor occupation had anything to do with the development of the condition for which he came to the hospital. His family history is negative. He had the usual children's diseases, and gives a history of rheumatic fever.

For the past four or five years he has had pain at irregular intervals in the epigastric region, which