

and as a rule they should be left alone, so far as operations are concerned.

Furuncles and carbuncles frequently occur in diabetic patients. The furuncles will usually succumb to the general treatment for diabetes. In the case of carbuncles, however, surgical treatment such as hot applications and the knife at the proper time are required.

#### FRACTURE OF THE SUPERIOR MAXILLA IN A MAN 70 YEARS OLD, WITH RECOVERY.\*

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The subject of fractures of the superior maxilla must always be of interest to some of the profession. As a general rule, perhaps the injury comes first to the general surgeon, who may or may not call in a skilled dentist to assist him. In many instances, I am afraid a general practitioner is not as well informed in the treatment as he should be from a dental standpoint, and it is not to be wondered at when we consult our text-books or journals of surgery on the subject—the information being exceedingly meager and ancient. It may again be asked: Is the dental surgeon, unless doubly qualified,<sup>1</sup> capable of taking entire charge of such cases, especially as the injury is usually severe and may have complications, as shock, hemorrhage, meningitis and septicemia? The position of a dentist has recently been decided in at least one of the states by the courts. The

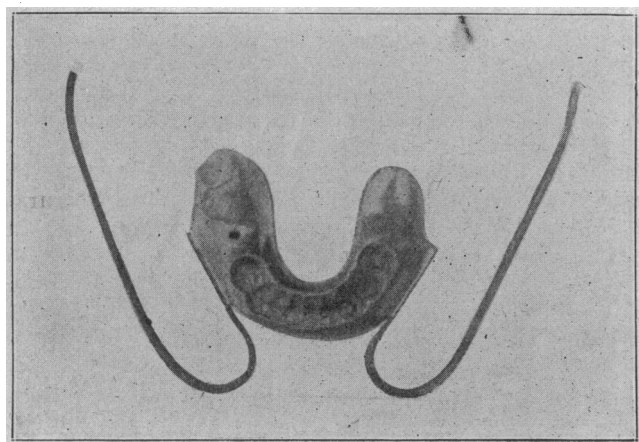


FIG. 1.—Lower Surface of Splint for Mandible to fit in and Holes to Wash Through.

court maintained that by using the title "dental surgeon" or "dentist," he has the right to treat such cases without fear of being judged unqualified or incompetent. By some, the question of not treating the case in consultation with a dentist and surgeon would be considered wrong. It may be asked if our dental schools are wise in not requiring a better course in oral surgery, with operative demonstrations on cadavers, etc., and at least giving a good training, so that a qualified dentist would be able to treat intelligently the usual class of cases belonging to the head and neck, and not consider a "tooth" as the only occupant of a patient's head.

As I previously mentioned, the literature is meager on the subject of such cases. Is it from the rarity of such injuries? Possibly not, for in looking over the reports and bibliography, I soon came to the conclusion that more cases might be found if considerable time could be given, for the classification is so mixed as to

make it nearly impossible to avail oneself of those reported. Almost every variety of heading must be looked under, viz., "face, maxillary, maxilla, malar, jaws, crushing injuries, dislocations, nasal bones and surgery." One case I found, by accident, under "Typhoidal Widal Reaction" in the *Index Medicus*. Dr. John S. Marshall, in his work on "Injuries and Surgical Diseases of the Mouth and Jaws," 1897, reported a similar scarcity, finding only 19 cases in the literature within his reach. To these I can add 14 more in the literature I was able to obtain; and one case besides that came under the care of Dr. Bertha E. Bush and myself. I will here give a brief summary of one of the reported cases, to show some of the difficulties in treating it.<sup>2</sup>

J. W., aged 38, injured by the bursting of an emery wheel. Fractures of left malar, nose, and four distinct comminuted fractures of the superior maxilla, two transverse, one in the middle line of mouth and separation of nearly all of the alveoli containing the teeth and a depression of the same of about ½ inch. Seen in a semi-comatose state, in which he remained for hours. Hemorrhage free and shock. On the third day a vulcanite splint was attempted after the manner of the Gunning pattern, patient being etherized for the purpose. The plate had to be removed, as the fragments would not stay well in position at the end of the week. After consideration, ether was again given on the tenth day and the bones drilled, silver wire being used to coaptate the bones; a roller bandage and chin support were used. Liquid was given through a tube, and the mouth was washed twice a day with listerin. The wires were removed the fortieth day, the union being perfect. Patient talked and chewed fairly well, but the range of jaw

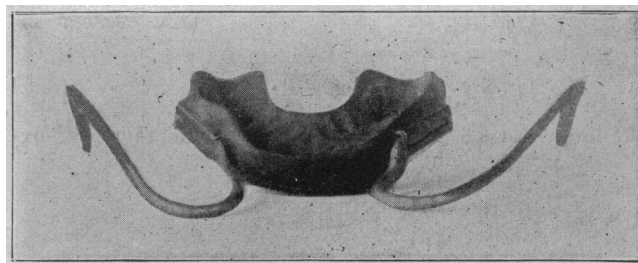


FIG. 2.—Anterior View and Upper Jaw Surface. Marshall Splint.

motion was naturally lessened and there was loss of smell and taste.

To the cases already reported I wish to add one recent one which came under my care during the past year. It is as follows:

On Sept. 14, 1899, A. B., aged 71 years, a man of strong physique, good health and habits, received a fall of 25 feet while examining a building. He was standing on a ladder which gave way and went to the ground under him. The patient fell forward, striking his face on one of the rounds of the ladder, nearly transversely at the level of the end of the nose, and also sustaining numerous bruises about the neck and shoulders and a sprain of the left wrist. He walked unaided into a house near by, and though considerably shocked was at no time unconscious. The immediate hemorrhage was very profuse from nose and mouth and continued about one hour. Dr. F. Keefer, who examined the face before much swelling had occurred, and Dr. Bertha E. Bush, of Chicago, found the upper alveolar margin and teeth freely movable en masse up and down as if upon a plate, though the mucous membrane of the mouth was intact except at the upper lip. The nasal and malar bones seemed uninjured and there was no orbital hemorrhage. The vomer, palate and inferior turbinated bones were

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<sup>1</sup> Possessing a medical and dental qualification.

<sup>2</sup> Staples, A. F.: *Railway Surgeon*. Chicago, 1898-9, pp. 133-135.

comminuted, crepitus about the alæ and septum of the nose resembling the "crackling feel of a broken eggshell." During the copious antiseptic irrigations of the nose and mouth, which were repeated every three or four hours in the first few days, the solution could be made to flow with some difficulty from either nostril into the mouth, but clots of blood and mucus, together with the extreme degrees of swelling which promptly ensued, effectually prevented nasal respiration. Deglutition and speech were difficult at first, but never quite impossible. The patient rallied somewhat slowly from the shock, and during the reaction developed a temperature of 101 F., which, however, subsided in less than a week. For twelve days after the accident no retentive appliance was adjusted, the treatment being directed solely to sustaining the patient's strength, relieving pain and keeping the injured parts as clean as possible by sprays, douches and gargles of antiseptic solutions and by wet compresses, principally borolyptol compounds and boracic acid. By this time, swelling had much diminished, there was only slight oozing of blood into the nose and pharynx, and a degree of hardening was perceptible about the floor and walls of the nares and the roof of the mouth. The soft parts were in good condition and no necrosis of bone had occurred. The mouth was habitually open for respiration, although the patient could at times breathe through his left nostril with effort. The face was markedly lengthened in the region of the injury, that is, the nose appeared longer than

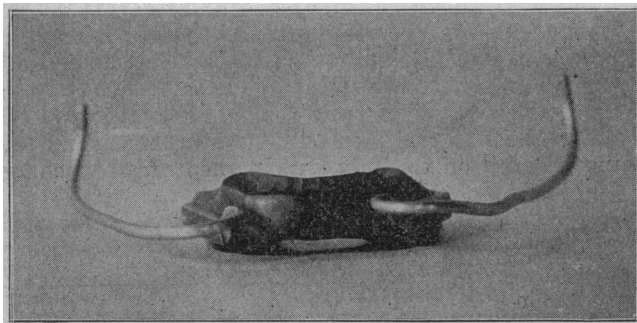


FIG. 3.—Marshall Splint. Anterior View. Slides for Wires.

normal and a little flattened, and the distance from the angles of the mouth to the eyes greater than before. The upper lip was longer (vertically), especially when the mouth was closed. The upper incisors dropped behind the lower on closing the jaws, a condition not usual to the patient previously.

None of the teeth had been loosened within the alveoli, but the entire row of upper teeth with the anterior portions of the superior maxilla moved freely up and down more than a quarter of an inch, a little lateral movement being also apparent. Pressure on either side of the nose beneath the orbits during the vertical and lateral movements of the upper jaw showed motion of the bony parts at those points, proving that the fracture of the superior maxilla had been far above the alveolar border; that separation from some of their upper articulations was probable. Ten days after the receipt of the injury the patient was brought, by my advice, to Chicago, a distance of 100 miles. He was seen, in consultation with us, by Dr. John S. Marshall, who directed the further treatment. It appeared certain that bony union of the fractured maxilla could not take place unless the fragments were held continuously in position, the anterior separation being fully a quarter of an inch when the mouth was open.

Support was not to be derived from any splint or bandage under the lower jaw, owing to the obstructed respiration when the mouth was closed. It was therefore determined to retain the loosened fragment in position by an interdental splint supported from the vertex, after the method described by Dr. J. S. Marshall, in his work on "Injuries and Surgical Diseases of the Face, Mouth and Jaws." On Sept. 24, 1899, the models were taken in modeling compound, and the following day a rubber plate was made to fit over the upper teeth, with spaces into which the lower teeth might close accurately. On each side of the plate a grooved piece of metal was imbedded and into each groove a wire spring was slid from before backward, the wire being bent on itself so that its shorter end occupied the groove in the plate and the longer end extended back four or five inches with its tips bent down. These two wires were easily slipped into place, after the plate was adjusted in the mouth, the wires passing out of the mouth opposite the cuspid teeth. A cap of netting and leather was made, with properly placed loops and buckles for adjusting the straps fastened to the wire springs. (See Figs. 1 and 3.) The apparatus was applied September 26, on the twelfth day after the accident and was worn day and night for three weeks, after which it was removed at night and worn in the day time for another week—Fig.

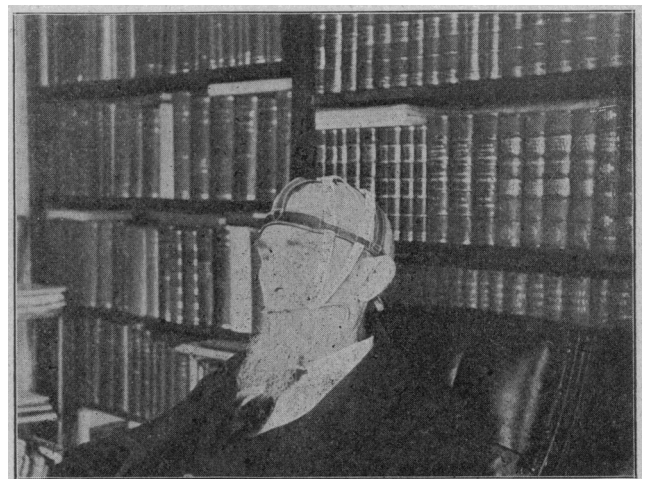


FIG. 4.—Fracture of Superior Maxilla and Vomer Bone, etc. Marshall Splint.

4. On removal of the support, union was found to be firm with only slight deformity, viz., a lengthening of the middle portion of the face. The patient could eat solid food, breathe with the mouth closed and complained of no pain except a numbness of the roof of his mouth and slight impairment of the senses of smell and taste—which is still present, eight months later. He gained in weight and strength and was able to work.

There are certain points in this case which are of interest to the general as well as to the dental surgeon:

1. The disadvantage of trying to use bandages, occipitofrontal and occipitomental, and the discomfort of a chin bandage.

2. The difficulty of respiration and danger of malocclusion, which latter must never be lost sight of and every effort made to secure perfect or as nearly perfect occlusion as possible.

3. The lack of perfect support to the jaw if wired only, and the need in many instances of an anesthetic for the same.

4. The guide which the interdental splint gives to

the mandible for correct occlusion, and hence chance to note any dropping or displacement of the splint.

5. The disadvantages of the plate are so few that they may be easily remedied, on account of its adaptability, and they differ with the patient's disposition: 1, the feeling of tightness around the head, which may give headache if not adjusted; 2, the slipping of the side tapes until the balancing point was found, can be remedied by making a downward curve (Fig. 5), bend or points in the wire, as seen in the diagrams.

6. The cap must be a good and accurate fit, the vertex leather not coming too low down to the ears.

7. The advantages of lightness, air through the mesh over the hair, use of non-corroding metal for the bars and sockets, or nickel-plating, the ease with which the plate may be slipped out and cleaned while the douching and irrigation is being done.

8. The advantage of drilling several holes in the sides and through the alveolar part of the plate so that syringing with water and antiseptics can be done, when the plate is put in, to get rid of particles of food.

9. The greater variety of solid food that the patient can eat, as it can be crushed by the tongue against the plate.

10. The bilateral, almost symmetric injury, giving no point of support within the oral cavity, yet resulting in very slight alteration of the face after recovery.



FIG. 5.—A.—Diagram of Points to Prevent Tapes Slipping.  
B.—Diagram of Bend.

11. This form of splint, a modification of Kingsley's, has this advantage over others, it can be vulcanized in an ordinary flask and the metal bars slipped in after the plate is polished.

12. Lastly the age of the man, being the oldest recorded case of recovery in the literature at my command.

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### THE PHYSIOLOGIC TRAINING OF THE FEEBLE-MINDED.\*

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American institutions for the care and training of the feeble-minded are the results of a little more than a half-century of the work begun abroad by various observers in a semi-scientific manner, it being reserved for the elder Seguin, a student of Itard and Esquirol—the French pioneer workers—to formulate a system from dilettantism. The year 1848 saw the beginning in this country of Seguin's enthusiastic, brilliant work, inspiring American workers—a beginning that places Wilbur, Brown, Knight, Kerlin and Richards almost side by side with Seguin; that saw two institutions in as many states multiplied in 1900 to 19 state and 10 private institutions, caring for a total of nearly 8000 feeble-minded persons. It is true that Seguin's methods of training the feeble-minded are yet considered the best, being founded on the only true method of all teaching—the physiologic—the only system that takes cognizance of the individual and the only system that prevents both student and teacher from becoming mere machines. Seguin died before he saw more than the beginning, in this land of his adoption, of a work for which he practically gave his life, but he left behind him a valuable legacy in the hands of brainy men, quite as enthusiastic as himself, and while the so-called physiologic system of training the feeble-minded still stands an enduring monument to a talented man, American talent has widened and extended the scope of the system far beyond the anticipations of its inventor.

Primarily, observers of the mentally deficient worked purely from philanthropic motives; later, from the standpoint that many such individuals were simply isolated from normal men by deprivation of proper training, and still later Seguin defined idiocy and apparently recognized somewhat indistinctly several types that differed from actual idiocy, types now definitely classified—thus:

- |                  |  |  |               |
|------------------|--|--|---------------|
| 1. Imbecile...   | $\left\{ \begin{array}{l} \text{Mentally deficient} \\ \text{Mentally and mor-} \\ \text{ally deficient} \end{array} \right\}$ | $\left\{ \begin{array}{l} \text{High grade..} \\ \text{Middle grade..} \\ \text{Low grade..} \end{array} \right\}$ | Educable.     |
| 2. Idio-imbecile |  |  |               |
| 3. Idiot         |  |  | Non-educable. |

It is unfortunate that we have not yet as a people recognized the anatomic deficiencies of our feeble-minded charges as being of paramount importance in prognosis. Fostered by ignorant persons, interested only in securing large fees for impossible though promised results, advertised by yellow journalism, the idea of cure is yet

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