

FRACTURES
of the
FACIAL BONES

WEBSTER

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To the Memory of My Father

FREDERICK W. WEBSTER

1884-1948

*The photographs of living
models are taken from the
author's case files*

FIGURES

1. The large wound of exit is determined by the density of tissues traversed	14
2. The small wound of exit is found in less dense tissue	15
3-4. Vascular bleeding controlled by ligation	16
5. Small vessel twisted with hemostat to control bleeding	17
6. Ligation of larger vessel	17
7. Knots	20
8. Knot-tying with instruments	21
9. Interrupted sutures	23
10. Continuous sutures	23
11. Continuous intra-dermal suture	24
12. Wound closure with deep and superficial suture	25
13. Procedure of scrubbing	27
14. Gowning and gloves	28
15. Draping the oral surgery patient	29
16. Operating team (maxillo-facial)	30
17. Indirect digital pressure for the control of hemorrhage	36
18. Maintenance of an adequate respiratory airway	37
19. Four-tailed bandage	38
20. Four-tailed bandage applied	39
21. The cravat or triangular bandage	40
22. The barrel bandage	41
23. Primary suture	46
24. Gunshot wound with fixation of bony fragment	47
25. Gunshot wound with inter-maxillary wiring	48
26. Stabilization of gunshot wound with circumferential and naso-maxillary wiring	48
27. Stabilization of gunshot wound by external pin fixation	49
28. Tracheotomy incision	51
29. Tracheal cartilage incision	52

30. Insertion of tracheotomy tube	53
31. Mosher Life-Savers	54
32. Objective symptom of fracture	59
33-34. Clinical evidence of fractured mandible	60
35. Technique for a lateral-oblique roentgenogram	62
36. Technique for a posterior-anterior roentgenogram	63
37. Technique for a Water's position roentgenogram	64
38. Use of angle meter in Water's position	64
39. The temporalis muscle	67
40. The masseter muscle	68
41. The pterygoid muscles	69
42. Fractures of the mandible with displacement	70
43. Bilateral fracture of the mandible with displacement	71
44-45. Displacement caused by muscle pull	72-73
46. The Gilmour wiring technique	74
47. Single eyelet wiring method	76
48. Wiring continued	77
49. Multiple loop wiring method	78-82
50. Labial arch bars	83
51. The Risdon twisted arch wire	84
52. Acrylic splints	85
53. Gunning splints	86
54. Silver screw-lock splints	87
55. Splint for rigid fixation	88
56-59. Steps in splint construction	89-90
60. The plaster of paris head cap	92-93
61. Use of the plaster head cap	93
62. Open reduction and direct bone wiring	95
63. Open reduction with direct wire fixation	96
64. Bilateral fracture and direct bone fixation	97
65. Bilateral fracture of mandible with fixation	98
66. Sub-mandibular view of incisions	98
67. Fixation of fracture of the edentulous posterior fragment	99
68. A bilateral fracture with bone plating	99
69. Construction of a splint for an edentulous case	100
70. Circumferential wiring of fractured edentulous mandible	101

71. Circumferential wiring of the mandible with naso-man- dibular fixation	102
72. Traction wires to the plaster head cap	103
73. External pin fixation appliance (Roger-Anderson)	105
74. Correct and incorrect insertion of pins	105
75. Use of the external pin fixation appliance	107
76. Clinical view of external pin fixation	108
77. Case under treatment with external pin fixation	109
78. Bilateral fracture of the mandible with external pin fixation	111
79-81. Internal pin fixation	112-114
82. Bilateral fracture of the condyles	115
83. Displacement following healing of a fracture of the condyle	115
84. Traumatic injury to the chin	116
85. Open reduction for treatment of a condylar fracture	116
86. Treatment of multiple fractures of the edentulous mandible	118
87. Treatment of a bilateral fracture of the edentulous mandible	118
88. Treatment of multiple comminuted fractures of the edentulous mandible	119
89. Control of the edentulous posterior fragment	120
90. Silver splint with extra-oral extension arm for control of the posterior fragment	121
91. Testing a fracture of the mandible for union	122
92. Complete transverse fracture of the maxilla	124
93. Unilateral horizontal fracture of the maxilla	125
94. Jackscrew splints in the treatment of maxillary fractures	127
95. Impacted and distally displaced maxilla	128
96. Cranio-maxillary traction	129
97. Incorrect type of cranio-maxillary traction	130
98. Multiple fractures of the facial bones	131
99. Reduction of the zygomatic arch	134
100. Reduction and immobilization of the fractured malar with comminution	135
101. Extra-oral screw for fixation	136

102. Temporal approach (Gillies) for reduction of depressed malar bone	137
103. Osteomyelitis due to inadequate immobilization	140
104. Non-union due to infection	141
105. Mal-union	142
106. A mal-union of an edentulous mandible	143
107. Non-union of the mandible	144

CONTENTS

INTRODUCTION	i
--------------	---

SECTION ONE

THE WOUND AND WOUNDING	7
------------------------	---

General Considerations, 7; Repair in a Wound, 8; Bone Repair, 12; Traumatic Wounds, 12; Basic Surgical Principles, 18; The Operating Room, 26; Diet, 30.

SECTION TWO

FIRST-AID TREATMENT	35
---------------------	----

Control of Hemorrhage, 35; Establishing an Airway, 37; Stabilization of the Parts, 38; Transportation, 39.

SECTION THREE

EMERGENCY TREATMENT	45
---------------------	----

Early Principles, 45; Traumatic Shock, 47; Tracheotomy, 50; Maxillo-Facial Injuries with Associated Head Injuries, 55; Fractures of the Facial Bones, 58; General Principles of Treatment, 63; Fractures of the Mandible, 66; Non-Surgical Methods of Treatment, 74; Surgical Methods of Treatment, 94; Fractures of the Maxilla, 119; Fractures of the Malar Bone and Zygomatic Arch, 133; Fracture of the Nasal Bones, 138; Post-Operative Considerations, 139.

INTRODUCTION

If attacks from the air should occur in this country, vast numbers of persons suffering injuries of the face and supporting structure would require medical attention. As such injuries are likely to be sustained in great numbers, great responsibility will be placed upon the dental profession, since the special features associated with maxillo facial casualties generally require the cooperation of the dentist. The techniques of treating the injured after an attack would be the established procedures used after any other disaster. Maxillo-facial casualties, like all others, would receive treatment first through first-aid stations generally administered by properly trained lay personnel. However, because of the lengthy period which may elapse between the first-aid treatment and the specialized attention in the general hospital, intermediate treatment is obviously necessary. Although this emergency treatment generally cannot be as complete as it can in an organized hospital, much can be done during the early stage. Primary suturing, immobilization, relief of pain and treatment of shock are measures to be taken which will aid in making transportation more comfortable.

Maxillo-facial injuries are of great concern not so much because of the possibility of loss of life as because of the resulting facial disfigurement. These deformities are most likely to follow severe injuries when there has been loss of

Fractures of the Facial Bones

tissue causing difficult and lengthy definitive treatment. Where there has been extensive loss of both bony and soft tissues the treatment is even more complicated. Early and adequate treatment of these wounds, regardless of their severity, is of utmost importance in order to safeguard against subsequent deformities and to minimize reconstructive surgery. The importance of this fact should be stressed constantly.

While plastic surgery today can in most cases completely restore soft-tissue losses, there are many considerations other than the transplantation of the soft tissues. Facial contour depends to a large extent upon the underlying bony framework. Where this is absent, a substitute in the form of an intra-oral prosthesis must be constructed as a temporary measure.

This requires the services of the dentist and often taxes his ingenuity. Patients with facial disfigurements are frequently under great mental stress because they are convinced of their repulsiveness. Here the dentist can again be of great service by making prosthetic restorations for the missing parts of the face before and during the various phases of the reconstructive surgery.

This manual is divided into three sections, namely:

A. General considerations of the wound and wounding.

In order to carry out the basic principles of treatment of wounds in the early stages, it is essential to understand the significance of wounding.

B. First aid. It is anticipated that first-aid units will be the first to deal with possible civilian injuries from air attack. These groups will render treatment at the site of the injuries and arrange for the distribution of the casualties. If first-aid treatment will generally be administered by properly trained lay groups, they must be so trained in order to grasp the entire situation quickly and then determine which casualties have injuries that require immediate attention. Since every casualty must

Introduction

be assumed to have sustained multiple injuries, a rapid examination must be made in order to make a preliminary appraisal of the patients' general condition as well as the extent and severity of their injuries.

The personnel of these first-aid units, trained to take care of first things first, must know the basic principles and specific procedures of first aid in facial injuries and be able to apply them to specific situations occurring in a disaster.

- C. Emergency treatment. Emergency treatment requires highly trained professional personnel. The end result depends largely upon proper early treatment of facial injuries. When such treatment is not properly administered, unnecessary permanent deformities may result.

Section One

THE WOUND AND WOUNDING

GENERAL CONSIDERATIONS

In order to assist the dentist in preparing himself for military service, for civilian emergency in case of bombings, for accidents resulting from blackouts, or similar disastrous events, the general meaning of wounding, the principles of wound healing, and general considerations relative to the care of such injuries will be reviewed here. The proper treatment of these injuries requires the dentist to have an intimate knowledge of head and neck anatomy, sound diagnostic ability and good judgment in the planning of treatment.

The great majority of maxillo-facial injuries falls into two categories—crushing injuries and injuries due to projectiles. Crushing injuries in peacetime are essentially the same as those occasioned by war. The mechanization of modern life has greatly increased the number and severity of compound crushing and penetrating lacerated wounds. In general, war wounds differ from those seen in civilian practice by their multiplicity, the frequency of severe traumatic shock and the serious extent of tissue disruption and loss. As is well known by now, modern warfare causes widespread injury to the civilian population—men, women and children—as well as to the armed forces engaged in actual combat. Air bombing and high-explosive shell fire in the last war were responsible for an enormous increase in crushing injuries and compound