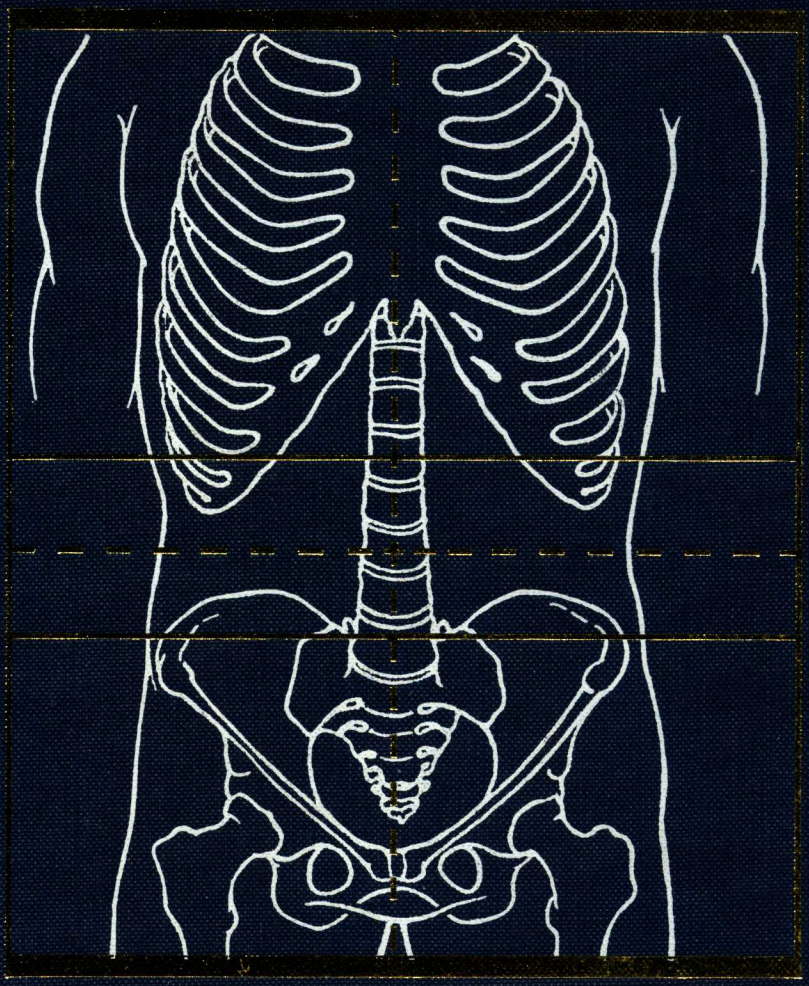


SURGICAL ANATOMY

HEALEY HODGE

SECOND EDITION

NOT FOR RESALE

SURGICAL ANATOMY

JOHN E. HEALEY, JR., M.D. (DECEASED)

Former Professor of Anatomy, The University of Texas Graduate School of Biomedical Sciences and Chief of Experimental Surgery, The University of Texas M.D. Anderson Hospital and Tumor Institute at Houston.

In collaboration with

JOSEPH HODGE, M.D.

Adjunct Clinical Professor of Surgery, Jefferson Medical College of The Thomas Jefferson University, Philadelphia, Pennsylvania; Department of Surgery, Spartanburg Regional Medical Center and Doctors Memorial Hospital; Adjunct Professor of Surgery and Anatomy, Mary Black Memorial Hospital School of Nursing, University of South Carolina, Spartanburg, South Carolina

Illustrated by
DONALD JOHNSON, WILLIAM A. OSBURN,
AND JEANET DRESKIN

SECOND EDITION

1990 • B.C. Decker Inc., Publisher
Toronto • Philadelphia

Publisher

B.C. Decker Inc
3228 South Service Road
Burlington, Ontario L7N 3H8

B.C. Decker Inc
320 Walnut Street
Suite 400
Philadelphia, Pennsylvania 19106

Sales and Distribution

United States and Puerto Rico
The C.V. Mosby Company
11830 Westline Industrial Drive
Saint Louis, Missouri 63146

Canada
McAinsh & Co. Ltd.
2760 Old Leslie Street
Willowdale, Ontario M2K 2X5

Australia
McGraw-Hill Book Company Australia Pty. Ltd.
4 Barcoo Street
Roseville East 2069
New South Wales, Australia

Brazil
Editora McGraw-Hill do Brasil, Ltda.
rua Tabapua, 1.105, Itaim-Bibi
Sao Paulo, S.P. Brasil

Colombia
Interamericana/McGraw-Hill de Colombia, S.A.
Apartado Aereo 81078
Bogota, D.E. Colombia

Europe
McGraw-Hill Book Company GmbH
Lademannbogen 136
D-2000 Hamburg 63
West Germany

France
MEDSI/McGraw-Hill
6, avenue Daniel Lesueur
75007 Paris, France

Hong Kong and China
McGraw-Hill Book Company
Suite 618, Ocean Centre
5 Canton Road
Tsimshatsui, Kowloon
Hong Kong

India
Tata McGraw-Hill Publishing Company, Ltd.
12/4 Asaf Ali Road, 3rd Floor
New Delhi 110002, India

Indonesia
P.O. Box 122/JAT
Jakarta, 1300 Indonesia

Italy
McGraw-Hill Libri Italia, s.r.l.
Piazza Emilia, 5
1-20129 Milano MI
Italy

Japan
Igaku-Shoin Ltd.
Tokyo International P.O. Box 5063
1-28-36 Hongo, Bunkyo-ku,
Tokyo 113, Japan

Korea
C.P.O. Box 10583
Seoul, Korea

Malaysia
No. 8 Jalan SS 7/6B
Kelana Jaya
47301 Petaling Jaya
Selangor, Malaysia

Mexico
Interamericana/McGraw-Hill de Mexico, S.A. de C.V.
Cedro 512, Colonia Atlampa
(Apartado Postal 26370)
06450 Mexico, D.F., Mexico

New Zealand
McGraw-Hill Book Co. New Zealand Ltd.
5 Joval Place, Wiri
Manukau City, New Zealand

Panama
Editorial McGraw-Hill Latinoamericana, S.A.
Apartado Postal 2036
Zona Libre de Colon
Colon, Republica de Panama

Portugal
Editoria McGraw-Hill de Portugal, Ltda.
Rua Rosa Damasceno 11A–B
1900 Lisboa, Portugal

South Africa
Libriger Book Distributors
Warehouse Number 8
"Die Ou Looiery"
Tannery Road
Hamilton, Bloemfontein 9300

Southeast Asia
McGraw-Hill Book Co.
348 Jalan Boon Lay
Jurong, Singapore 2261

Spain
McGraw-Hill/Interamericana de Espana, S.A.
Manuel Ferrero, 13
28020 Madrid, Spain

Taiwan
P.O. Box 87-601
Taipei, Taiwan

Thailand
632/5 Phaholyothin Road
Sapan Kwai
Bangkok 10400
Thailand

United Kingdom, Middle East and Africa
McGraw-Hill Book Company (U.K.) Ltd.
Shoppenhangers Road
Maidenhead, Berkshire
SL6 2QL England

Venezuela
McGraw-Hill/Interamericana, C.A.
2da. calle Bello Monte
(entre avenida Casanova y Sabana Grande)
Apartado Aereo 50785
Caracas 1050, Venezuela

NOTICE

The authors and publisher have made every effort to ensure that the patient care recommended herein, including choice of drugs and drug dosages, is in accord with the accepted standards and practice at the time of publication. However, since research and regulation constantly change clinical standards, the reader is urged to check the product information sheet included in the package of each drug, which includes recommended doses, warnings, and contraindications. This is particularly important with new or infrequently used drugs.

Surgical Anatomy—2

ISBN 1-55664-127-3

© 1990 by B.C. Decker Incorporated under the International Copyright Union. All rights reserved. No part of this publication may be reused or republished in any form without written permission of the publisher.

Printed in Hong Kong

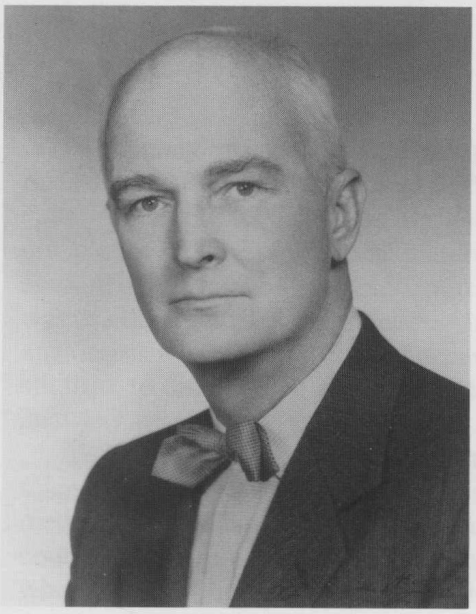
Library of Congress catalog card number: 89–50083

10 9 8 7 6 5 4 3 2 1

馆藏专用章

Dedicated to

Our Mentors and Friends



The Surgeon

John H. Gibbon, Jr. (1903–1973)

Graduate of Princeton University (1923) and Jefferson Medical College (1927). Became Professor of Surgery and Director of Surgical Research in 1946 and in 1954 was named Samuel D. Gross Professor and Chairman of the Department of Surgery at Jefferson.

The Anatomist

George A. Bennett (1904–1958)

Graduate of Wabash College (1923). Doctor of Medicine, University of Munich (1937). Became Professor and Chairman of the Department of Anatomy and Director of the Daniel Baugh Institute of Anatomy, Jefferson Medical College, in 1948, and in 1950 was appointed Dean of the College.

重庆医科大学附属第一医院图书馆藏专用章

Preface

For many years, physicians have argued that a large amount of the anatomical material presented to the medical student in the preclinical years was of little practical value in ensuing clinical training and practice of medicine. This argument is not completely valid. The practical material *was* included, but because of the tremendous amount of information presented, particularly in the area of gross anatomy, the student was usually lost in a maze of detail. Anatomy faculties today are sorely lacking in gross anatomists who have the clinical experience which would enable them to enlighten the students to differentiate impractical details from the essential practical facts of gross anatomy.

With the tremendous information explosion which has occurred in the medical sciences in recent years, it became imperative that a change be made in the traditional medical curriculum. The curriculum is changing, but primarily at the expense of courses in gross anatomy. There are many individuals in the field of medical education who advocate the complete subjugation of anatomy to the college premedical level. Anatomy, particularly gross anatomy, should be streamlined to meet the required adjustments in the medical curriculum but certainly not eliminated!

Over the past years in teaching graduate medical students, I have observed a very interesting phenomenon. Whereas, in earlier years, the applicants for graduate courses in regional anatomy were invariably surgeons preparing for their surgical board examinations, during recent years, applications have been received from physicians of practically all specialties—all, that is, except specialists in psychiatry and dermatology. This, I feel, is an expression of the physicians' awareness of their lack of and need for anatomical training in the practice of medicine.

From my experience in teaching graduate medical students, it became obvious that there was a need for a concise anatomic descriptive text with an accompanying atlas. It was also apparent that they wanted not only a regional descriptive anatomy but also some practical applications of the anatomical knowledge. With these needs as our goal, the task of assembling this book was initiated.

I well realize that this book has its shortcomings. It was designed as a concise anatomy of areas in which the *general* surgeon plays an important therapeutic role. It is for this reason that many areas are included, particularly those related to the special senses, i.e. eye, ear, nose, and throat. The areas covered in this book, however, are anatomical regions with which all physicians should be thoroughly familiar.

I have oversimplified the descriptive anatomy in several areas, but only to enable the reader to understand an almost incomprehensible concept. I have avoided full discussions of variational patterns but instead have tried to present a method by which the reader may establish a norm which will aid in the recognition of a variant pattern. The anatomical terminology can also be criticized by the purist. I have not followed a strict nomenclature but have used anatomical terms most commonly used by the clinician.

此为试读，需要完整PDF请访问：www.ertongbook.com

One of the most difficult chores in writing this book was the selection of surgical considerations to be discussed. What is presented is only a small particle of what could be presented. The material was limited in order to retain a concise text and should not imply that anything omitted is not of anatomical significance. In the discussions of surgical considerations involving operative procedures, we have tried to circumvent detailed surgical technique and have emphasized the surgical anatomical principles involved. What I regret most is the lack of individual reference to information contained in this book. If such references were made, the bibliography would require more pages than the entire text-atlas.

Acknowledgments

I wish to express my appreciation to my collaborator, Dr. Joseph Hodge. Dr. Hodge was named prosector in anatomy under Dr. George Bennett at the Daniel Baugh Institute of Anatomy at the same time that I joined the faculty of the Institute. He then entered Jefferson Medical College and after graduation took his surgical training under Dr. John H. Gibbon, Jr. He has contributed a great deal in the sections of surgical considerations of the neck, thorax, abdomen, and peripheral vascular procedures.

My thanks are also offered to Dr. William D. Seybold, former Clinical Associate Professor of Surgery, Baylor University College of Medicine, and Senior Surgeon, Kelsey-Seybold Clinic, Houston. He is truly a surgeon and an anatomist—a lost breed today. His assistance was most significant, particularly in the section on the thorax. Despite his heavy clinical chores, he always found time to assist me in questions regarding the clinical considerations of the various anatomical areas. I personally gained much in the knowledge of applied surgical anatomy from our association.

Dr. John McKeown, former Clinical Professor of Surgery of the Jefferson Medical College has aided me in the surgical considerations of the parotid region.

To the surgical staff of the University of Texas, M.D. Anderson Hospital and Tumor Institute at Houston, I must also give thanks. Unknown to them, their brains were picked on many occasions in order to obtain information incorporated in this book.

To the artists, Mr. Don Johnson, Mr. Bill Osburn, and Mrs. Jeanet Dreskin, I wish to express my gratitude for a job well done.

Also, my special appreciation goes to Mr. Robert Rowan, Executive Editor, B. C. Decker Inc., Publisher, for his assistance and encouragement in the preparation of this book.

No book, regardless of its size, can be accomplished without secretarial assistance. My appreciation is extended to Mrs. Maria Maloney, Mrs. Janie Breed, Miss Dixie Knight, Mrs. Betty Herndon, and Mrs. Mary Kunak.

JOHN E. HEALEY, JR., M.D.

Publisher's Note

Sadly, Jack Healey slipped away quietly just when this new edition was about to be published. A dedicated family man, he was also a man of multiple and broad talents, holding the many posts listed on the title page.

Foreword

Jack Healey and I first met in 1947 in Dr. John H. Gibbon, Jr.'s Surgical Research Laboratory at Jefferson where, as a medical student, he first demonstrated the interest in research that characterized his long and productive career. He and George Bennett, to whom this second edition of this book is dedicated, were among the finest teachers of anatomy that I have known. It is fitting that their names be linked in this improved and augmented version.

In the competitive world of medical school curriculum committees, when more and more material must be squeezed into the limited time available, it is natural that the opportunity for students to learn gross anatomy has been limited, perhaps too severely. Human anatomy has changed little over the millennia and its study holds few challenges for the brilliant investigator. Yet an understanding of it is essential to every physician, nurse, and other deliverers of health care, and when a new technique is developed, additional vital details come to light. At the same time the needs of the clinician differ greatly from those of the pure anatomist. It is this gulf that Dr. Healey has bridged so well, offering an eminently readable description of the human body correlated with practical application. This book will be read with pleasure and benefit by all who look forward to or participate in patient care.

JOHN Y. TEMPLETON, III, M.D.
Emeritus Professor of Surgery
Jefferson Medical College

重庆医科大学附属第一医院图书馆
馆藏专用章

Contents

SURGICAL ANATOMY

中山医科大学附属第一医院
图书馆藏书

The Parotid Space

The parotid space, or retromandibular space, is of clinical importance because of the presence of the parotid gland. The frequency of operative procedures upon this gland plus the fact that this area is one of the main passageways between the head and neck makes it necessary that the surgeon possess a knowledge of its anatomic relations.

BOUNDARIES (Figs. 1 and 2):

Anterior—masseter muscle; ramus of the mandible; internal pterygoid muscle.

Posterior—mastoid process; sternocleidomastoid muscle.

Superior—external auditory meatus; temporomandibular joint.

Inferior—sternocleidomastoid muscle; posterior belly of the digastric muscle.

Lateral—skin; superficial fascia; superficial layer of parotid fascia.

Medial—deep layer of parotid fascia; styloid process and related muscles; internal jugular vein; internal carotid artery; pharyngeal wall.

FASCIAL RELATIONSHIP (Fig. 2):

The superficial (investing) layer of deep cervical fascia ascends and splits around the inferior border of the parotid gland into a superficial and a deep layer of *parotid fascia.*

The *superficial layer of parotid fascia* is a dense fibrous tissue layer which attaches to the zygomatic process above, and is continuous with the fascia covering the sternocleidomastoid muscle behind, and the masseter muscle in front.

The *deep layer of parotid fascia* extends along the medial surface of the gland and attaches to the base of the skull. It is not as dense as the superficial layer except for that portion extending between the styloid process and the angle of the mandible which thickens to form the *stylomandibular* ligament. The deep layer is especially thin along its medial surface where it is related directly to the pharyngeal wall.

PAROTID GLAND PROPER (Fig. 2, and Fig. 1, page 5):

The parotid gland, the largest of the salivary glands, occupies the entire parotid space; its boundaries, therefore, are in general identical with the boundaries of that space. Portions of the gland, however, may extend in various directions beyond these boundaries.

A prolongation of the gland may be related to the medial surface of the internal pterygoid muscle, the *pterygoid lobe* (Fig. 2). A medial extension between the internal carotid artery and styloid process, sometimes quite isolated, is referred to as the *carotid lobe* (Fig. 2). A prolongation into the posterior portion of the glenoid fossa immediately in front of the external auditory meatus is termed the *glenoid lobe* (Fig. 1, page 5). The largest and most common extension, however, is the *socia parotidis,* or *accessory parotid gland,* which is located anterior in position between the parotid duct and the zygomatic arch (Fig. 1, page 5). This lobe may be entirely detached from the main portion of the gland.

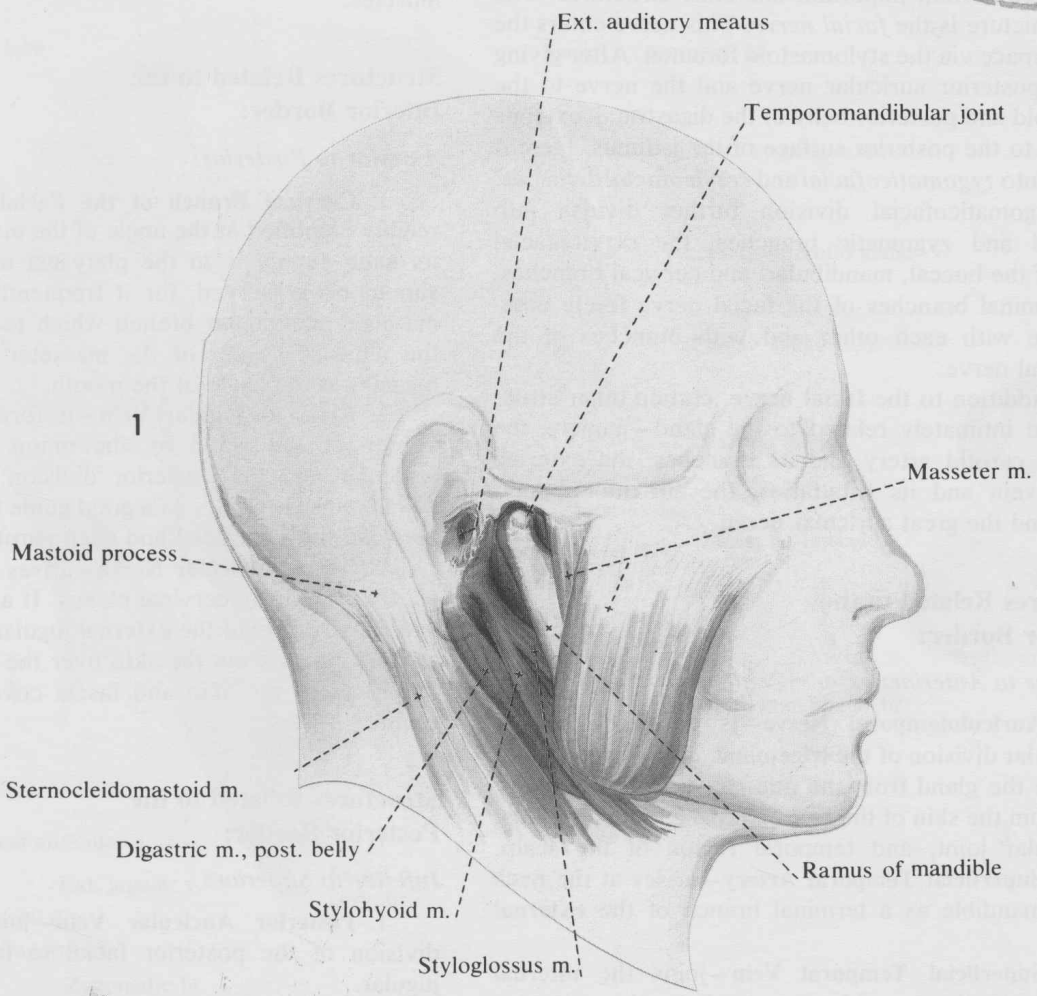
PAROTID DUCT (Fig. 1, page 5):

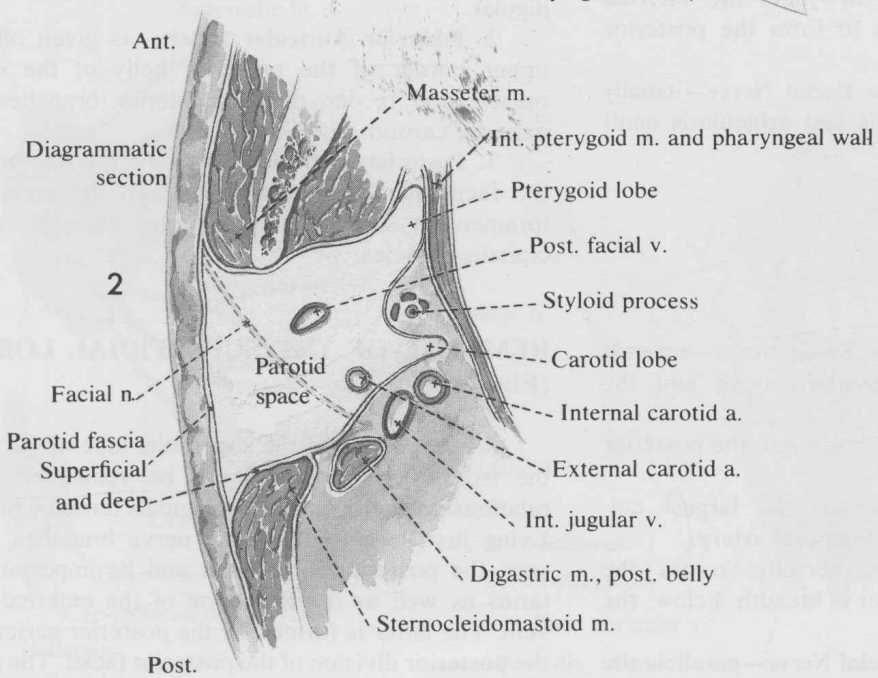
The duct of the parotid gland, *Stensen's duct,* extends from the anterior margin of the gland and proceeds forward over the masseter muscle about a finger's breadth below the zygomatic arch. It makes an abrupt turn at the anterior border of the masseter muscle and pierces the buccal fat pad, the buccinator muscle, and the mucous membrane of the mouth. The termination of the duct is on the summit of a papilla located opposite the crown of the second upper molar tooth (Fig. 2, page 9).

BILOBE CONCEPT (Fig. 2, page 5):

As early as 1912, the concept was put forth that the parotid gland is fundamentally divisible into two lobes, a *superficial* and a *deep.* The main branches of the facial nerve pass between these lobes in a fascial plane. The two lobes are joined by an isthmus of varying size, behind which the main trunk of the facial nerve divides; the zygomaticofacial division passes above the isthmus, and the cervicofacial division below.

重庆医科大学附属第一医院图书馆
馆藏专用章





此为试读，需要完整PDF请访问：www.ertongbook.com

RELATED STRUCTURES (Figs. 1 and 2):

One can define a superior, anterior, inferior, and posterior border of the parotid gland, and to each border are related certain important anatomic structures. The main structure is the *facial nerve*. This nerve enters the parotid space via the stylomastoid foramen. After giving off the posterior auricular nerve and the nerve to the stylohyoid and posterior belly of the digastric, it extends forward to the posterior surface of the isthmus. Here it divides into *zygomaticofacial* and *cervicofacial* divisions. The zygomaticofacial division further divides into temporal and zygomatic branches; the cervicofacial gives off the buccal, mandibular, and cervical branches. The terminal branches of the facial nerve freely communicate with each other and with branches of the trigeminal nerve.

In addition to the facial nerve, certain other structures are intimately related to the gland—namely, the external carotid artery and its branches, the external jugular vein and its tributaries, the auriculotemporal nerve, and the great auricular nerve.

Structures Related to the Superior Border:

Posterior to Anterior:

1. **Auriculotemporal Nerve**—is a branch of the mandibular division of the trigeminal, carrying secretory fibers to the gland from the otic ganglion, and sensory fibers from the skin of the ear, external auditory meatus, mandibular joint, and temporal region of the scalp.
2. **Superficial Temporal Artery**—arises at the neck of the mandible as a terminal branch of the external carotid.
3. **Superficial Temporal Vein**—joins the internal maxillary in the parotid space to form the posterior facial vein.
4. **Temporal Branch of the Facial Nerve**—usually multiple, innervates the frontalis and orbicularis oculi muscles.

Structures Related to the Anterior Border:

Superior to Inferior:

1. **Zygomatic Branch of the Facial Nerve**—extends forward to innervate the orbicularis oculi and the zygomaticus muscles.
2. **Transverse Facial Vein**—drains into the posterior facial vein.
3. **Transverse Facial Artery**—is the largest collateral branch of the superficial temporal artery.
4. **Parotid Duct**—runs transversally across the masseter muscle about a finger's breadth below the zygomatic arch.
5. **Buccal Branch of the Facial Nerve**—parallels the duct but lies just below it. It may at times arise from the zygomaticofacial division rather than the cervicofacial. It innervates the muscles of the nose and angle of the mouth, as well as the buccinator.
6. **Mandibular Branch of the Facial Nerve**—supplies the quadratus labii inferioris and the mentalis muscles.

Structures Related to the Inferior Border:

Anterior to Posterior:

1. **Cervical Branch of the Facial Nerve**—may be readily identified at the angle of the mandible. Although its main supply is to the platysma muscle, this nerve should be preserved, for it frequently gives rise to a marginal-mandibular branch which turns upward along the anterior border of the masseter to innervate the muscles at the angle of the mouth.
2. **External Jugular Vein**—is formed at the lower border of the gland by the union of the posterior auricular and the posterior division of the posterior facial veins. It serves as a good guide to the facial plane between the superficial and deep parotid lobes.
3. **Great Auricular Nerve**—arises from C_2 and C_3, via the superficial cervical plexus. It ascends parallel to and slightly behind the external jugular vein and carries sensory fibers from the skin over the mastoid, back of the ear, and the skin and fascia covering the parotid gland.

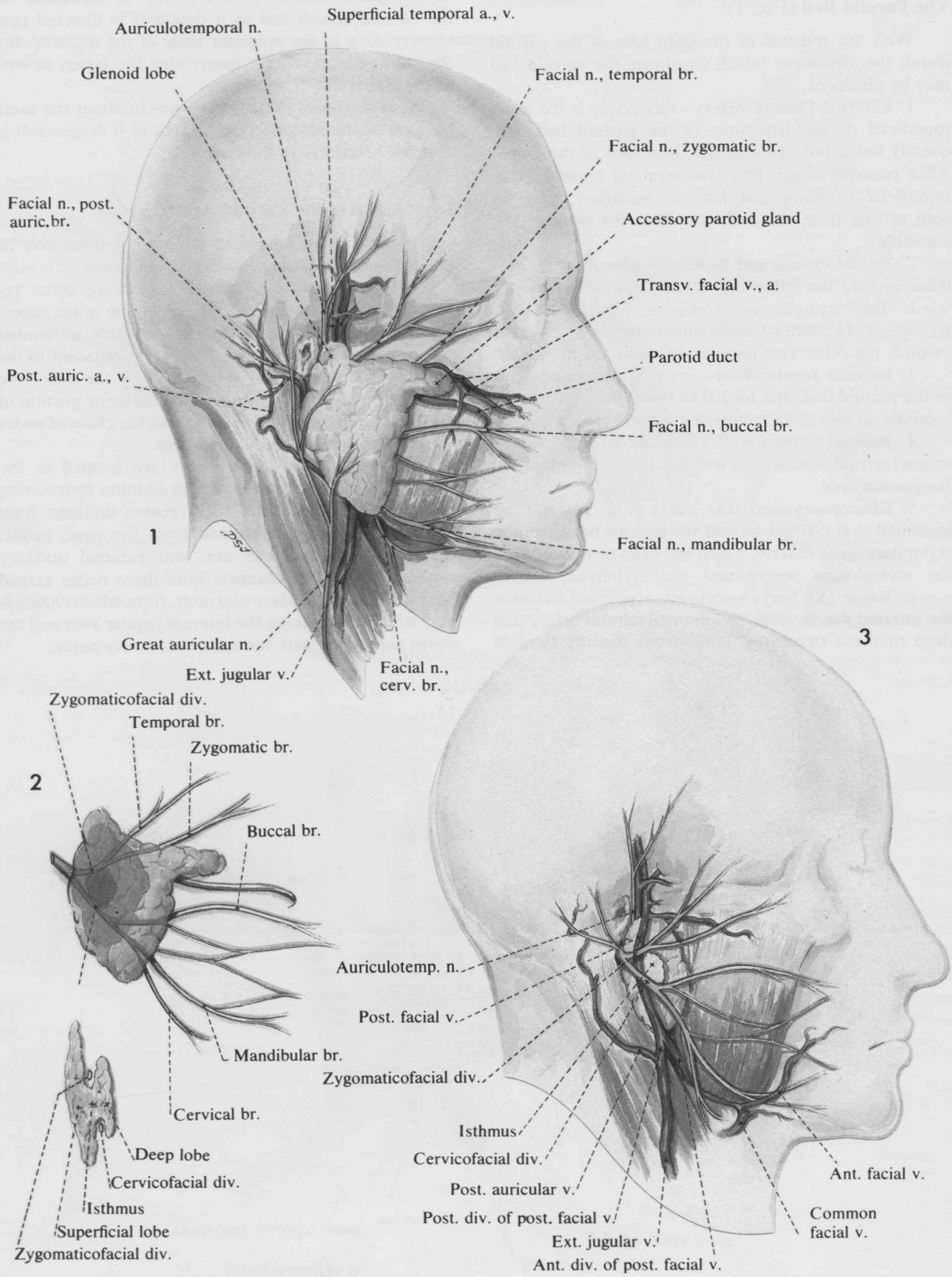
Structures Related to the Posterior Border:

Inferior to Superior:

1. **Posterior Auricular Vein**—joins the posterior division of the posterior facial to form the external jugular.
2. **Posterior Auricular Artery**—is given off at the upper border of the posterior belly of the digastric muscle and is one of the posterior branches of the external carotid.
3. **Posterior Auricular Nerve**—is the first branch of the facial nerve after its exit from the stylomastoid foramen. It supplies the posterior auricular and occipitalis muscles.

REMOVAL OF THE SUPERFICIAL LOBE (Fig. 3):

After removal of the superficial lobe of the parotid, the isthmus of the gland can be visualized with its relationship to the facial nerve and its terminal branches. Lying just deep to the facial nerve branches may be seen the posterior facial vein and its important tributaries as well as the formation of the external jugular vein. The latter is formed by the posterior auricular and the posterior division of the posterior facial. The anterior division of the posterior facial joins the anterior facial to form the common facial.


Auriculotemporal n.
Superficial temporal a., v.
Glenoid lobe
Facial n., temporal br.
Facial n., zygomatic br.
Facial n., post. auric. br.
Accessory parotid gland
Transv. facial v., a.
Parotid duct
Post. auric. a., v.
Facial n., buccal br.
1
Facial n., mandibular br.
Great auricular n.
Ext. jugular v.
Facial n., cerv. br.
3
Zygomaticofacial div.
Temporal br.
Zygomatic br.
2
Buccal br.
Auriculotemp. n.
Post. facial v.
Mandibular br.
Zygomaticofacial div.
Cervical br.
Isthmus
Deep lobe
Cervicofacial div.
Post. auricular v.
Ant. facial v.
Isthmus
Post. div. of post. facial v.
Common facial v.
Superficial lobe
Ext. jugular v.
Zygomaticofacial div.
Ant. div. of post. facial v.

REMOVAL OF THE DEEP LOBE:

The Parotid Bed (Fig. 1):

With the removal of the deep lobe of the parotid gland, the structures which constitute the parotid bed may be observed.

1. **External Carotid Artery**—this artery is the most superficial of the structures in the parotid bed, frequently being imbedded in the deep lobe of the gland. After removal of this lobe, the terminal branches, the *superficial temporal* and *internal maxillary,* may be seen arising from the main trunk at the neck of the mandible.

2. **Styloid Process and Its Related Muscles** (Fig. 2)—these include the following muscles from above downward: the *styloglossus, stylopharyngeus,* and the *stylohyoid.* The latter passes superficial to the external carotid; the other two muscles lie deep to this vessel.

3. **Internal Jugular Vein**—lies posterior in position in the parotid bed, just medial to the styloid process. It receives no important tributaries in this immediate area.

4. **Internal Carotid Artery**—is located just anterior to the internal jugular vein and gives off no branches in the parotid area.

5. **Glossopharyngeal (IX) Nerve** (Fig. 2)—may be identified as it courses around the inferior border of the stylopharyngeus muscle, which lies deep to and between the styloglossus above and the stylohyoid below.

6. **Vagus (X) Nerve**—occupies a position between the internal jugular vein and internal carotid artery and deep to these structures. It descends directly through the space and gives rise to the deep-lying superior laryngeal branch at this level.

7. **Spinal Accessory (XI) Nerve**—is superficial to the carotid sheath and as it descends is directed posteriorly deep to the posterior belly of the digastric and the sternocleidomastoid, innervating the latter, as well as the trapezius.

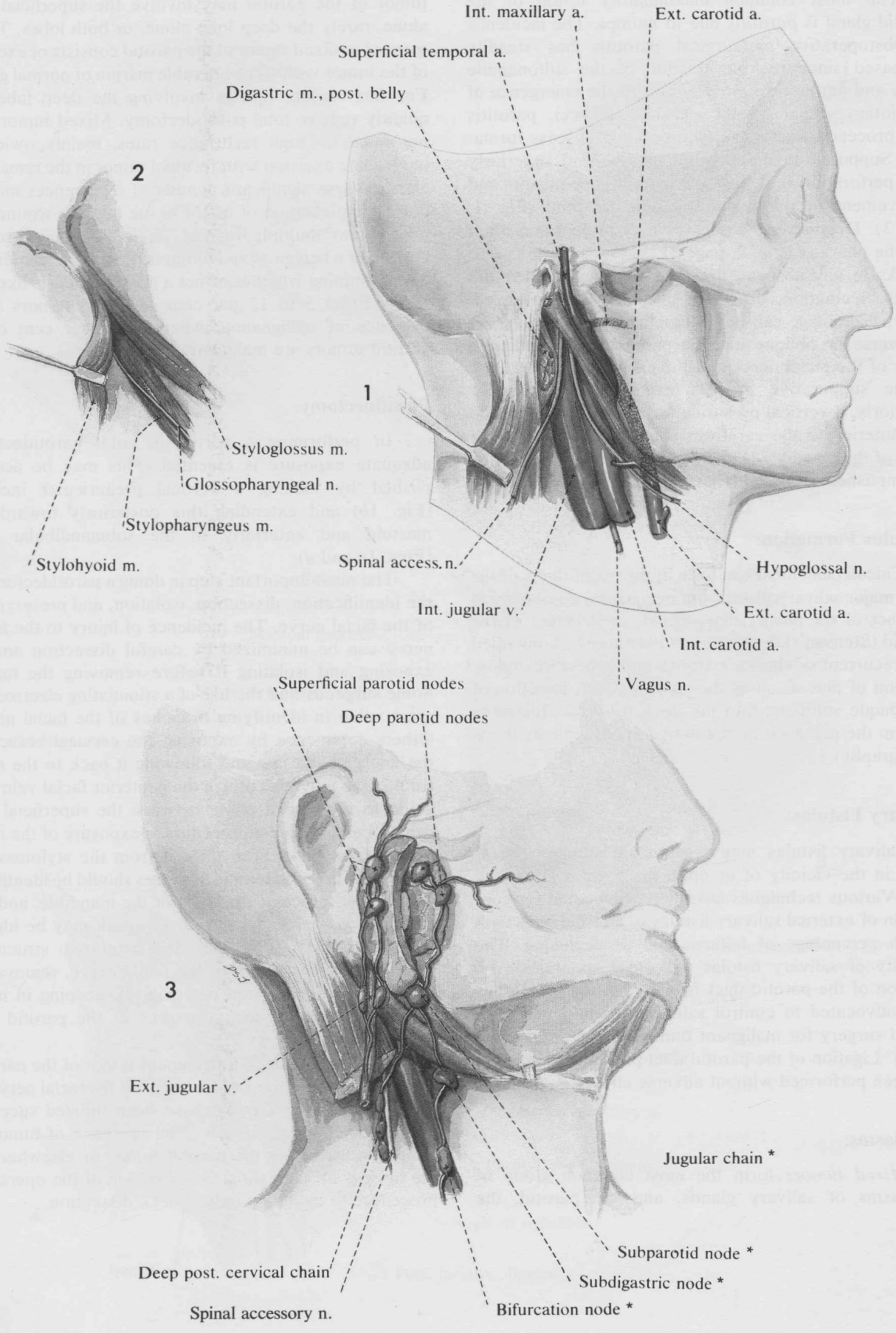
8. **Hypoglossal (XII) Nerve**—lies in about the same position as the spinal accessory, but as it descends it is directed anteriorly to the tongue.

Lymphatics of the Parotid Area (Fig. 3):

Lymph nodes related to the parotid gland may be divided into two groups, superficial and deep.

1. **Superficial Group**—these nodes are often referred to as the preauricular nodes and lie in the superficial fascia of this area. They are variable in number and receive lymph channels from areas adjacent to the parotid space, i.e., the upper part of the face, the temporal area of the scalp, and the anterior portion of the auricle. These nodes all drain into the chain of nodes lying along the external jugular vein.

2. **Deep Group**—these nodes are located in the substance of the parotid gland. In addition to receiving channels from the gland, they receive drainage from parts of the nasopharynx and from the nose, palate, eustachian tube, middle ear, and external auditory meatus. The lymph channels from these nodes extend caudalward to the *subparotid node,* from which channels pass to the chain along the internal jugular vein and the nodes associated with the spinal accessory nerve.


Int. maxillary a.
Ext. carotid a.
Superficial temporal a.
Digastric m., post. belly
2
1
Styloglossus m.
Glossopharyngeal n.
Stylopharyngeus m.
Stylohyoid m.
Spinal access. n.
Hypoglossal n.
Int. jugular v.
Ext. carotid a.
Int. carotid a.
Vagus n.
Superficial parotid nodes
Deep parotid nodes
3
Ext. jugular v.
Jugular chain *
Subparotid node *
Subdigastric node *
Bifurcation node *
Deep post. cervical chain
Spinal accessory n.

CLINICAL CONSIDERATIONS:

The most common inflammatory lesion of the parotid gland is *parotitis* due to mumps. The incidence of postoperative or surgical parotitis has steadily decreased since the introduction of the sulfonamide drugs and antibiotics. However, with the emergence of antibiotic-resistant strains of staphylococci, parotitis may proceed to actual suppuration and abscess formation. Suppuration of the gland may extend superiorly with perforation into the external auditory meatus and involvement of the temporomandibular joint (Fig. 1, page 3). Deep-seated abscesses may project and drain into the pharynx (Fig. 2, page 3).

As in any abscess, drainage is indicated over the site of fluctuation, or where pus has been localized. External drainage can be accomplished through a short transverse or oblique incision parallel to the radiating fibers of the facial nerve and the parotid duct (Fig. 1*a*). If the suppurative process extends posteriorly or superiorly, a vertical preauricular incision may be made just anterior to the ear from above the tragus to the angle of the mandible (Fig. 1*b*). Internal drainage may be accomplished from within the oral pharynx (Fig. 2).

Calculus Formation:

Calculi (sialoliths) can form in the major ducts of the three major salivary glands, but occur most commonly in the duct of the submaxillary gland. Obstruction of the parotid (Stensen's) duct by a calculus may be associated with recurrent or chronic parotitis and is best treated by excision of part or all of the parotid gland. Injection of radiopaque solutions into the duct orifice is utilized to confirm the presence of calculi by radiographic methods (sialography).

Salivary Fistulas:

Salivary fistulas may result from surgical procedures in the vicinity of or upon the parotid gland and duct. Various techniques have been advocated for conversion of external salivary fistulas to internal ones with a high percentage of failures due to occlusion. The majority of salivary fistulas will close spontaneously. Ligation of the parotid duct from within the mouth has been advocated to control salivary incontinence after radical surgery for malignant tumors of the floor of the mouth. Ligation of the parotid duct proximal to a fistula has been performed without adverse effects.

Neoplasms:

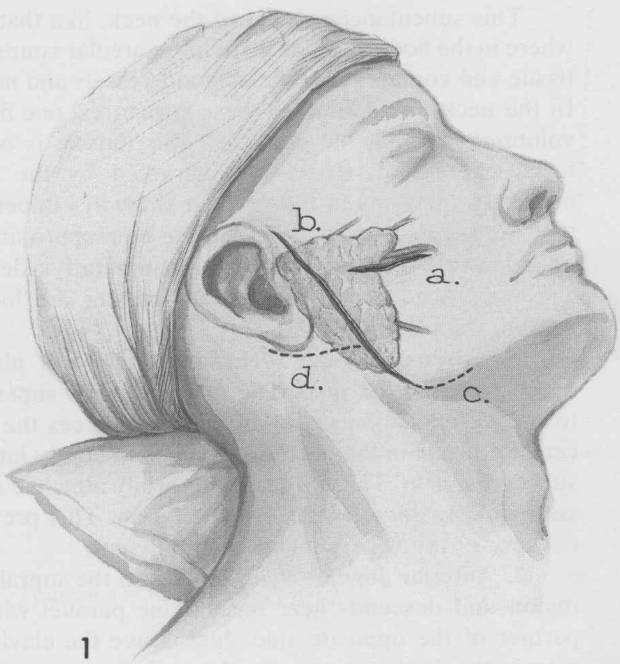
Mixed tumors form the most common group of neoplasms of salivary glands, and the parotid, the largest salivary gland, is the site of 85 to 90 per cent of mixed tumors which affect the salivary system. A mixed tumor of the parotid may involve the superficial lobe alone, rarely the deep lobe alone, or both lobes. Treatment of a mixed tumor of the parotid consists of excision of the tumor with a considerable margin of normal gland. For this reason, tumors involving the deep lobe frequently require total parotidectomy. Mixed tumors are notorious for high recurrence rates, mainly owing to inadequate excision with residual tumor in the remaining gland. A less significant number of recurrences may be due to implantation of tumor tissue into the wound and possibly to multiple foci of origin. The microscopic pattern of a benign mixed tumor is not a significant factor in determining whether or not a mixed tumor is likely to recur. From 5 to 12 per cent of mixed tumors show evidence of malignancy, whereas 30 per cent of all parotid tumors are malignant.

Parotidectomy:

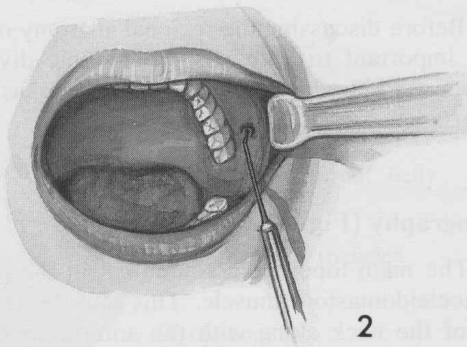
In performing a partial or total parotidectomy adequate exposure is essential. This may be accomplished by making a vertical preauricular incision (Fig. 1*b*) and extending this posteriorly toward the mastoid and anteriorly in the submandibular area (Figs. 1*c* and *d*).

The most important step in doing a parotidectomy is the identification, dissection, isolation, and preservation of the facial nerve. The incidence of injury to the facial nerve can be minimized by careful dissection and by exposing and isolating it before removing the tumor. Some surgeons find the use of a stimulating electrode of great value in identifying branches of the facial nerve. Others commence by exposing the cervical branch at the angle of the jaw and following it back to the main trunk. One may also utilize the posterior facial vein as a guide to the fascial plane between the superficial and deep lobe. The safest procedure is exposure of the main trunk of the facial after its exit from the stylomastoid foramen. Three anatomic structures should be identified: the mastoid process, the angle of the mandible, and the cartilaginous ear canal. The main trunk may be identified about midway between the latter two structures (Fig. 3). After isolation of the facial nerve, removal of the deep lobe is carried out (Fig. 4), keeping in mind the relationship of the structures in the parotid bed (Fig. 1, page 7).

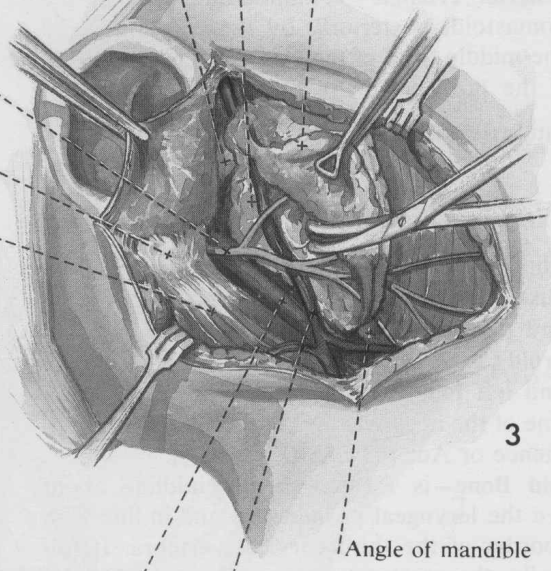
In the presence of a malignant tumor of the parotid gland, it may be necessary to sacrifice the facial nerve or its branches. Nerve grafts have been utilized successfully to repair such defects. The presence of tumor in lymph nodes below the parotid tumor or elsewhere in the neck is an indication for extension of the operative procedure to include a radical neck dissection.



1

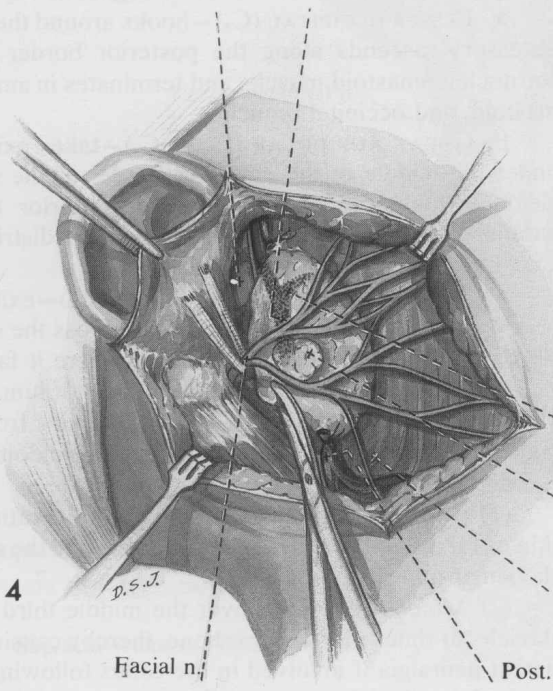


2



Cartilaginous ear canal
Parotid gland, deep lobe
Parotid gland, superficial lobe
Facial nerve
Mastoid process
Sternocleidomastoid m.
External carotid a.
Angle of mandible
Posterior facial v.
Digastric m., post. belly

3



Cartilaginous ear canal
Internal maxillary a.
Parotid gland, isthmus
Angle of mandible
Facial n.
Post. facial v., ligated

4

此为试读，需要完整PDF请访问：www.ertongbook.com