Osteotomy of Mandibular Ramus

Prognathism and Allied Problems

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Fellow of American College of Surgeons
Senior Staff of Santa Monica Hospital

The technique for correcting prognathism by performing osteotomy of the mandibular ramus — pioneered by the author of this book — receives an extraordinarily thorough examination in this highly readable and well-illustrated text.

Doctor Robinson projects the personality of a natural teacher as he guides both the novice and veteran surgeon through before-surgery communication with the patient, preparation for surgery, step-by-step surgical details of exposing the ramus and dividing it, and post-surgery routine care and complications such as the displaced condyle, a sponge left in the wound, a keloid, or the necessity of a second operation.

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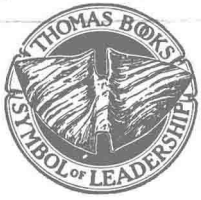

CHARLES C THOMAS · PUBLISHER
Springfield · Illinois · U.S.A.

Published and Distributed Throughout the World by

CHARLES C THOMAS • PUBLISHER
Bannerstone House
301-327 East Lawrence Avenue, Springfield, Illinois, U.S.A.

ISBN 0-398-03610-1

Library of Congress Catalog Card Number: 76-26157

With THOMAS BOOKS careful attention is given to all details of manufacturing and design. It is the Publisher's desire to present books that are satisfactory as to their physical qualities and artistic possibilities and appropriate for their particular use. THOMAS BOOKS will be true to those laws of quality that assure a good name and good will.

Library of Congress Cataloging in Publication Data

Robinson, Marsh.
Osteotomy of mandibular ramus prognathism and allied problems.

Includes index.
1. Mandible—Surgery. 2. Prognathism—Surgery.
I. Title.
RD526.R6 617'.522 76-26157
ISBN 0-398-03610-1

Printed in the United States of America
C-1

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Acknowledgments

THE AUTHOR WISHES to express his sincere appreciation to Mrs. John J. Farrell for her assistance with manuscript preparation, and to Ms. Linda Dummel for preparing the illustrations.

M.R.

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OSTEOTOMY OF MANDIBULAR RAMUS

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CHAPTER I

Before Surgery

CONSENT

IN GETTING CONSENT for osteotomy operations, I use what I regard as good techniques in communication with my patients. If there is good communication, many problems, including possible legal ones, will disappear. Of course, communication is an art, so each doctor must develop his own approach. Most doctors spend their entire professional lives trying to perfect this art. No one can expect to learn a simple method from someone else, but a discussion of my techniques may help other doctors to develop their own.

I think it is important to shake hands with the patient, this being the doctor's first physical contact with him. I also find that communication seems easier if I am not separated from the patient by an office desk. A better arrangement is for the patient and myself to be seated in comfortable chairs around a small table. This places us at about eye-level.

I direct my remarks to the patient even if the parents are present. So that the mother and father do not feel they are being ignored, I may say to them, "I don't treat models or the mothers or fathers, I treat patients," and then I direct my attention back to the teenager. When I do this, I will often see, out of the corner of my eye, the mother and father nod approvingly.

If dental models have been sent by the referring dentist, I may be able to cover everything in this first consultation. If not, the consent has to wait until I have had a chance to prepare and study the models. Consequently, I will have to say, "I can tell you

today about other patients, but I cannot talk about you specifically until I have plaster models of your teeth. I can then show you the operation in plaster. It all has to be done in plaster first. Our results are never better than the plans we make beforehand."

The consent form I use in shown in Figure 1. Two copies, with a sheet of carbon in between, can be ready before the consultation begins. I usually begin by saying, "This is not a dangerous operation like opening your chest or belly, because this bone is right under the skin." By this time, I have filled in the date on the consent form. Then, as I write the word prognathism, I say that *pro* means *in front of* and *gnathos* means *jaw*. (I am assuming here that the patient's problem is one calling for surgery.)

Today, ... Dr. Robinson described the operation for ..... to me, using pictures and models, and explaining the following details:

Location of scars and bone division.

My teeth will be wired for ..... weeks (liquid diet only).

Arch bars or extra wires will be applied the day before surgery.

A splint will be made two weeks before surgery from models of my jaws.

I will be in Santa Monica Hospital about four days.

Dr. Dwyer, Dr. Smith, or Dr. Wolff will give me a general anesthetic.

I will wear a bulky collar dressing during the first 48 hours, and I may or may not have significant swelling, black and blue marks, lip lag, or numb lower lip.

My jaws may undergo further growth.

100% results cannot be guaranteed.

If another doctor is to take care of the wires, he will be .....

Pictures of me, and also my case report, may be used in scientific articles for publication in medical and dental journals and books, and I hereby give my permission.

I have received a cost estimate and a copy of this sheet.

Signed .....

(The Los Angeles County dental and medical associations require Dr. Robinson to have this proof that a full explanation was given to you. If anything is not clear, be sure to ask him at your next appointment.)

Figure 1

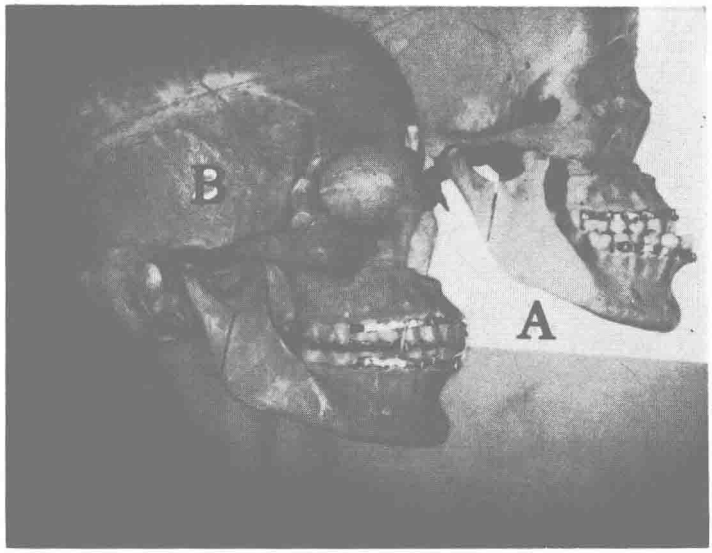

Figure 2. Patient education model demonstrating prognathism. Plastic skull has been altered to make mandible prognathic by sawing through angles and adding plastic. Preoperative model is photographed and print (A) is shown to patient. Vertical osteotomies are done to demonstrate location. Arch bars are applied and intermaxillary wires are placed with intraoral acrylic locking splint to demonstrate these features to patient (B).

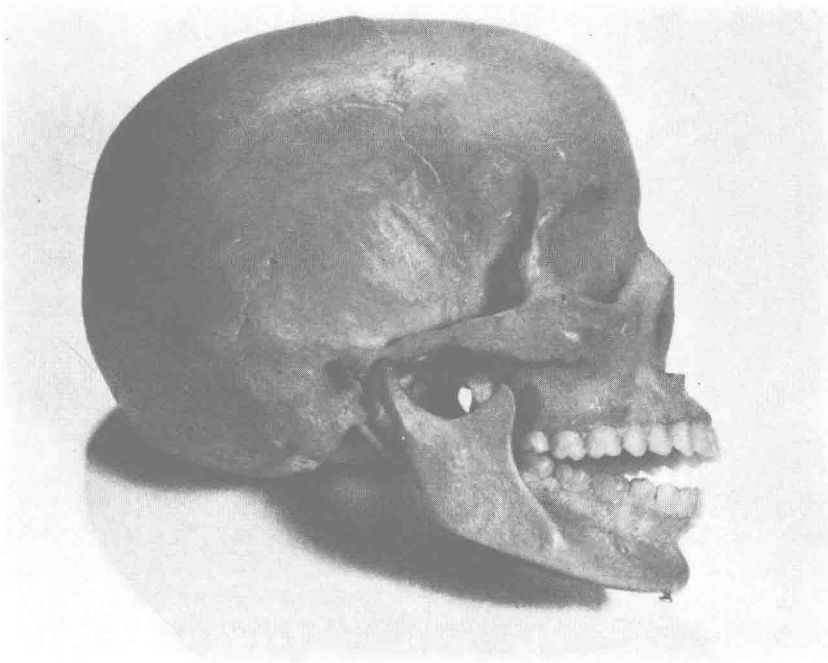

Figure 3. Second plastic skull has mandible altered to show open bite. This mandible has spring between sphenoid bone and geniohyoid tubercle, so it is interchangeable with others.

I may say, "Your teeth don't meet properly. Teeth are like a stake in the ground. You can hit on top of it all day long and it stays tight, but start wiggling it from side to side and it loosens up.

"Your teeth aren't going to fall out tomorrow, of course, but we see patients in their forties whose teeth are loose because of their bad bite. If you lose teeth, it's very difficult, or even impossible, for your dentist to replace them.

"This is an operation for the restoration of function. That is why insurance companies pay for it. If something works better, it looks better. If you had a crippled hand and an operation was done to make it work better, its appearance would be improved."

It should be made clear to the patient that this operation is being done to make him function better–with the additional plus

Figure 4. Another open-bite plastic mandible has had vertical osteotomy and coronoidotomy. It is attached to skull shown in Figure 3 during explanation of surgery for open bite. Paper clip holding coronoid process has to be explained away. Model shown in Figure 2 must also be used during explanation of splint and fixation.

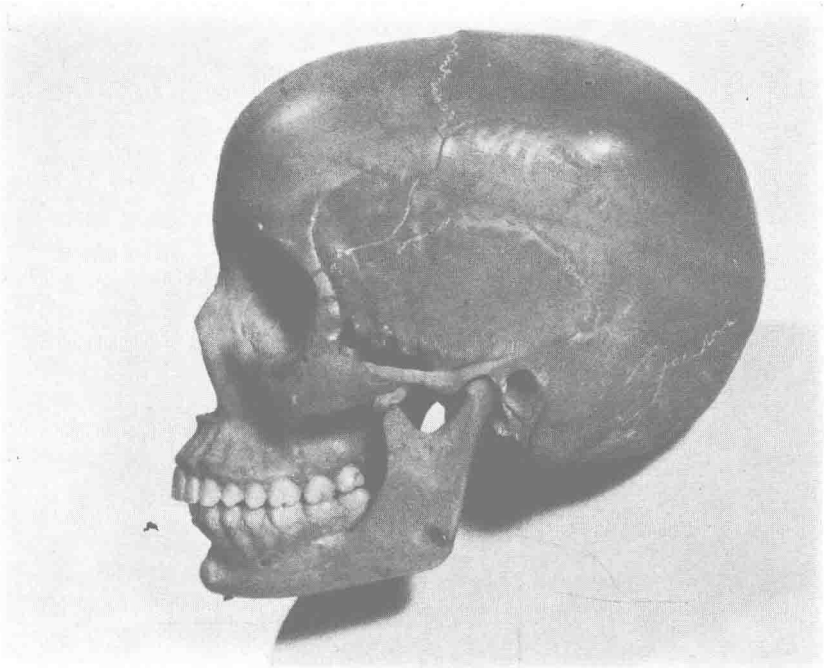

Figure 5. Left side of mandible in Figure 4. Plastic has been added to simulate a healed mandible so patient can understand that healing occurs and mandible is not left in pieces. Seems strange, but this *is* necessary.

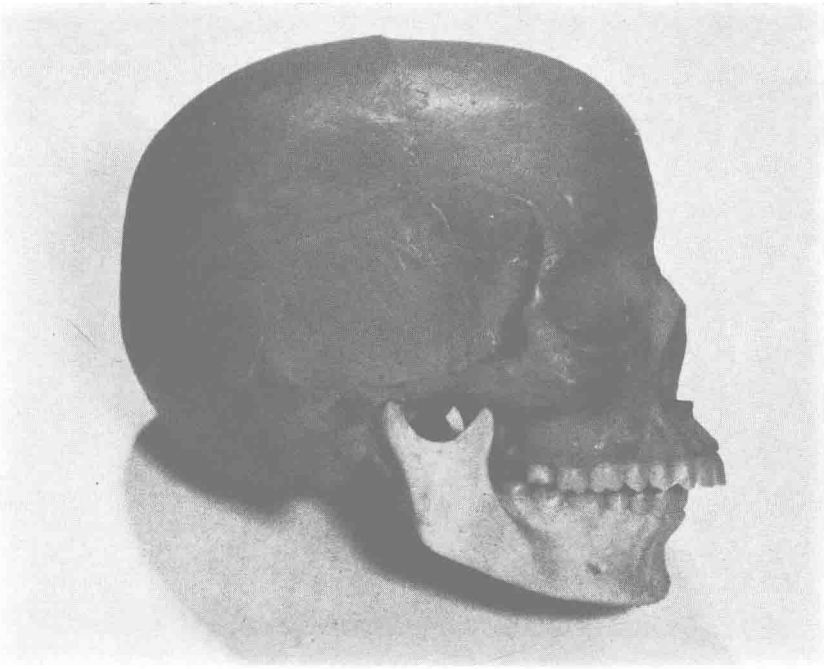

Figure 6. Third mandible is altered to fit skull shown in Figure 3 for demonstration of micrognathism.

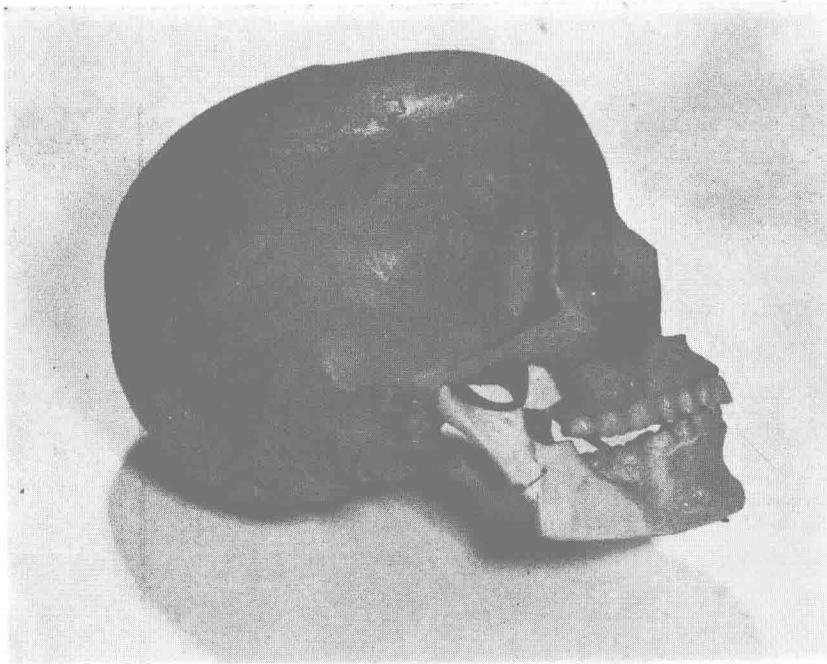

Figure 7. Correction for micrognathism is shown by alterations on plastic mandible.

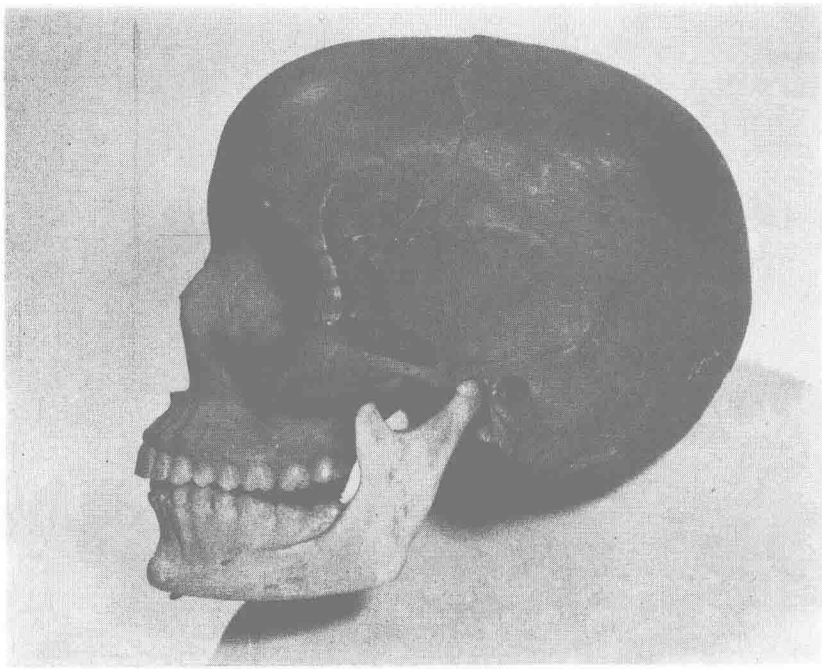

Figure 8. Do not forget to heal the left side of the mandible shown in Figure 7 or your patient will never believe the end result of treatment is a solid mandible!

of improving his appearance. It is important to stress the functional over the cosmetic aspects, especially with teenage girls.

There should be an album on the table with preoperative and postoperative photographs of patients. When I explain the location of the scars, I mention that scars are noticeable when they are red. A girl may want to wear her hair lower or cover them with make-up. Scars on boys are in the beard area where blood supply is good, and the problem is of much shorter duration.

I have found a plastic skull model of value. The Medical Plastics Laboratory of Gatesville, Texas, will supply some putty-like plastic on request, with the purchase of one of their plastic skulls. The regular mandible can be transformed into a prognathic one. Vertical overlapping osteotomies of the rami can be demonstrated, arch bars can be placed, and intermaxillary wires can be placed over a fabricated postoperative splint.

In explaining the location of bone division, you can bring out your plastic skulls and say, "This is plastic, although it looks real." Many patients have a revulsion to a real skull, but they will touch the plastic model without fear. As you point to the intermaxillary wires, you can say, "Your teeth will be wired together like this for seven weeks," and you write the numeral seven in the blank. But do this only if your observation shows that the patient has pure prognathism. If there is an element of open bite, it is much better to say, "It may be twelve weeks, but I won't know until after I have studied models," and write down twelve? in the blank. You can easily cut several weeks off, but you will be in deep trouble with your patient if you try to add as much as one day.

Make clear that this is a nonnegotiable item. If the teenager wants to argue the point, just say, "You want the right thing done for you, don't you?" Another statement that puts an end to any questioning of time, place, or method is, "I can jeopardize my own time and comfort, but I can not jeopardize the care of my patients."

If the patient replies, "But I won't be able to talk for twelve weeks," you can answer, "Yes you can, but you can't yell or sing. You can't scuba dive or play the clarinet. And you can still eat–liquids." At this point, you could explain the diet.

The splint can not be seen well on the wired model, so it is best to have an extra one available for demonstration. You can say, "In the healing process we lose about twice the thickness of a dime (this sounds better than saying 20 percent because it sounds like less), so I make the splint to overcorrect by this amount. With the splint in, you might think I have set it back too far, but when the splint comes out, the jaw comes forward."

Then you explain the arch bar, pointing to the model, and you go on down the list, checking off each point as you cover it. After you have discussed anesthesia, you say, "Now I'm going to tell you the bad things." First, give a description of the bandage, but say that it comes off in forty-eight hours. Be sure to say that swelling and ecchymosis, if they occur, may take two weeks to resolve, so that the patient will not plan any big social engagements for the two weeks after surgery.

Trace on your own face the seventh nerve as you describe how this big nerve comes out under the ear and spreads over the face to move the muscles. As your finger traces the marginal branch, explain what is going to happen. "This lower branch swings down, often below the jaw, and goes to the lower lip. This is the nerve that pulls the corner of your mouth down. We find it with a little electrical stimulator that makes the muscle jump, and we pull this nerve up out of our way during the surgery. Nerves are tender–just pulling a nerve can put it out of commission for a few days or even a few weeks. Sometimes, after this operation, one of these nerves does not start working again for several months; we call the result *lip lag*. The effect is always temporary, but I want you to know about it so you won't worry if it happens to you."

If there is an element of open bite, demonstrate the location of the inferior alveolar nerve on the plastic model and mention the temporary numbness that may possibly occur. You can explain that if numbness does occur, it is usually of short duration.

The possibility of further growth has to be discussed with all patients under twenty-one. Greater emphasis is necessary with younger patients, because you must get consent for two operations in boys under sixteen and in girls whose initial menses was less than two years previously (see "Age of Patient").