

Mandibulectomy: Immediate Mandible Reconstruction with Fibula Free Flap

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Introduction

A tumor in the head and neck can involve the jawbone or mandible. When that happens, it is necessary to remove the part with the tumor. Removal of all or part of the mandible is called a *mandibulectomy*. The mandible is then reconstructed. The surgeon uses bone. It is usually from the smaller of the two bones in the lower leg. Artery, vein, and soft tissue from the same lower leg area are brought up with the bone.

The surgery you will have causes facial swelling. It will slowly decrease as the area heals over several months. You will gradually begin to eat, drink, and chew again. How long it takes varies from person to person. It also depends on the extent of the surgery. Ask questions and voice any concerns to your doctor, nurse, or other member of your healthcare team.

This booklet will let you know what to expect before and after the operation. Your doctors and nurses will give you more detailed information.

Before Surgery

You will meet with two surgeons. The first is the head and neck surgeon who will remove the tumor and part of your mandible. The second is the reconstructive plastic surgeon who will rebuild your mandible. You will also meet with the dentists from the Dental Department, who play an important role in your care. They will take x-rays to assess the amount of tumor in the bone. These x-rays are used to make a model of your new mandible before surgery.

You may also have:

- A consult with a medical doctor. This doctor will evaluate any other medical problems you have. The consult is to make sure you are safe during surgery.
- A pulmonary function test (PFT) to see how your lungs are working.
- A cardiac stress test to evaluate your heart.
- Facial photographs that will be used during the reconstruction.
- Additional CT scan(s) and side view x-rays. These are needed to make models of your jaw that are used during reconstruction.
- An angiogram to evaluate the blood vessels in your donor leg.

Next, you will be scheduled for your presurgical testing (PST) visit. This is the final step before your surgery. PST includes blood work, a chest x-ray, and an EKG (electrocardiogram). You will also see a nurse practitioner (NP). The NP will review your medical history and examine you. During the PST, please let the NP know if giving up alcohol before surgery will be a problem for you. He or she can prescribe medicine after surgery. Medicine can minimize or prevent side effects that can result when alcohol is suddenly stopped.

Surgery

Your operation will involve two surgical “teams.” The head and neck team removes the tumor, bone, and some soft tissue. This will take three to four hours. At the same time, the reconstructive plastic surgery team takes bone, tissue and skin from your leg. It will be used to reconstruct your mandible. This type of surgery is called a mandibulectomy with reconstruction using a fibula free flap. Once the head and neck team has completed its part of the surgery, the reconstruction can be done.

The reconstructive part of the surgery usually takes six to eight hours. The bone from your leg will be shaped to match, as closely as possible, the piece of the mandible that was removed. Once this is complete, the artery and vein that were removed from your leg are attached to an artery and vein in the head and neck area; this is done under a microscope. The “new” mandibular bone is fixed with plates and screws and is then covered by the soft tissue.

During surgery, the dentist will place temporary arch bars and rubber bands in your mouth. These will keep your teeth and jaw correctly aligned. Your surgeon will remove the rubber bands five or seven days after surgery. The dentist will remove the arch bars 14 days after surgery.

Head and neck surgery can cause swelling and difficulty with breathing. As a safeguard, a tracheostomy (trach) tube is inserted while you are still asleep. It goes into your windpipe through an incision in your neck. This will assure an open airway and make it easier for you to breathe.

After Surgery

When you wake up in the Post-Anesthesia Care Unit (PACU), you will not be able to open your mouth because of the rubber bands. You will not be able to talk because of the trach tube. The nurses will ask you “yes” and “no” questions about how you feel. You will be able to let them know if you need or want something. You will also be able to write if you need to ask something. You will stay in the PACU overnight. This does not indicate a problem. It means that your flap will be closely monitored for the 12 hours after the operation.

After the operation, you will have tubes, drains, catheters, and other medical devices.

- A humidifier collar placed over your trach tube. It will provide moist air to your lungs.
- The intravenous (IV) line through which you will receive:
 - Fluid.
 - Antibiotics.
 - Pain medication.
 - Anticoagulants (to prevent your body from forming blood clots in the surgical area).
- A Foley® catheter to drain urine from your bladder. It is removed two or three days after surgery.
- Drains in your neck and leg to allow fluid to escape. They are removed when the drainage is less than one ounce in 24 hours.
- A feeding tube through your nose into your stomach. You will get high-protein liquid feedings and your medicines through this tube. You will not be able to eat and drink until the swelling from the surgery goes down.
- A cast or splint on your donor leg. It will be removed five to seven days after surgery.
- An inflatable boot on the unoperated leg. It helps circulate blood through the leg.

For the first week after surgery, doctors and nurses will monitor the blood supply to your jaw and nearby tissue. They use a machine called a Doppler®. It is noisy, but painless, and very important. The nurse and doctor will also check the temperature and color of the area. This assessment is very important.

The doctor will remove the stitches in your face five to seven days after surgery. The stitches in your neck will stay in for about seven to ten days after surgery. If you have had radiation to your face or neck, the stitches will stay in place for two weeks to three weeks.

Self-Care

Your nurses and nursing assistants will care for your drains, tubes, and tracheostomy. As you begin to feel better, they will teach you how to do some of this care yourself.

Tracheostomy

When you cough and breathe deeply, mucus from your lungs and the back of your throat will come through the trach tube (a device to help you breath). While the trach is in place, the mucus will have to be suctioned. Your nurse will do this suctioning frequently during the first few days after surgery and will then teach you how to do it yourself. You may want to watch the video *Tracheostomy Suctioning*. Ask your nurse for it. Once swelling has decreased, you will have less mucus and the opening of the trach tube will be capped so you can breathe through your nose. If you are able to breathe and cough up mucus comfortably with the trach tube capped, the trach will be removed. If you go home with the trach tube in place, a portable suctioning machine will be ordered for you.

Nasogastric Feeding Tube

Your nurse or nursing assistant will perform the tube feedings at first, but as soon as you are able, you will be taught how to do the feedings yourself. The feeding tube will remain in place as long as you need it. The video *Tube Feeding* demonstrates the feeding procedure and care of the tube; ask your nurse for the video. Once the swelling begins to go down, you will be given clear liquids to drink and then soft foods to eat. How quickly your diet progresses will depend on your healing. When you are able to take in enough calories by mouth, the feeding tube will be removed. If you are going home with the feeding tube in place, a dietitian will order formula and feeding bags for you.

Leg Care

If you **do not** have a skin graft, you will stay in bed for 24 to 48 hours after surgery to help your leg heal. You will have a cast or splint on your operated leg and an inflatable boot on your other leg to help the blood circulate. The boot will be placed on your leg whenever you are in bed. After 24 to 48 hours, you can get out of bed and sit in a chair with your leg raised. The cast or splint will be taken off by the fifth day after surgery. Your leg will then be wrapped with an Ace® bandage. You will be taught how to rewrap the bandage and will do this three times a day to assure even support of this leg. It is important to keep your leg raised as much as possible. When you first get out of bed, you will need to use a walker. You will be able to walk on your own within the next two weeks.

If you **do** have a skin graft, in addition to the above, your operating room dressing will not be changed for five days. When it is changed, a special dressing will be applied and then your leg will be wrapped in an Ace® bandage. Walking or even dangling your leg the first three weeks after surgery will cause your leg to swell and prevent the skin from healing. You will still be able to get out of bed after 48 hours, but for three weeks after the operation, whenever you are out of bed and sitting in a chair, your leg must be elevated. You can begin walking three weeks after surgery. You will need to use a walker at first. After time, you will be able to walk on your own.

Oral Irrigation

As soon as the rubber bands are removed, you will begin irrigating (wetting) your mouth with salt water and baking soda. This helps keep your mouth clean and moist. It should be done three to four times a day. Do it in the morning, after meals, and at bedtime. The procedure is demonstrated in a patient education video *Oral Irrigation*. Ask your nurse for the video. Starting on the fifth day after surgery, you will go to the treatment room each morning and afternoon to have your mouth sprayed with salt water and your dressing changed. Oral irrigation will continue after discharge. You will need to take your irrigation set home with you.

Trismus

Trismus is the inability to open the jaw. It can occur after surgery or radiation. It is caused by soft tissue scarring or changes in the muscles around the jaw. You must do some jaw exercises to prevent trismus. As soon as you are ready, your doctor or nurse will tell you how often to do them. You will be given a card about them also.

Diet

Most patients are discharged on a pureed diet. This means that foods have been put through a blender. No matter what type of diet you are on, your doctor and nurse will review it with you. You will also meet with a dietitian. Your diet will progress as healing takes place. You will be given a booklet, *Eating Guide for Mechanical Soft and Pureed Diets*.

Follow-Up Appointments

Both the head and neck surgeon and the reconstructive plastic surgeon will need to see you after discharge. Call each surgeon's office to schedule a visit. It is very important to go to these follow-up appointments. Write down any questions you have and bring them with you. That will help you remember what you wanted to ask the surgeons.

Special Points

- Avoid sun exposure. Use a PABA-free sunscreen, with an SPF of 30 or higher, on the operated sites.
- Do not apply direct heat to the surgical sites. They are numb and you can easily burn yourself. Do not use hot water bottles or heating pads. You should also avoid saunas and steam rooms.
- Avoid Jacuzzis and swimming pools until your suture lines are completely healed.
- Use an electric shaver (men). Do not shave over suture lines while your sutures are in place.
- Do not use perfume, cologne, after-shave, and perfumed moisturizers until the suture lines are completely healed.
- Check with your doctor before you start vigorous exercise or sports.

Conclusion

The diagnosis and treatment of cancer can create many strong feelings. Patients who need to have an operation on their head and neck often have either temporary or permanent changes in the way they look. This makes this cancer diagnosis even harder. It is a difficult time for you and those close to you. Patients have told us their feelings and emotions change as they go through treatment and recovery.

Talking to your doctor, nurse, family members, and friends about your feelings may help you deal with them. You can also ask to speak with a psychiatrist, social worker, and clergy. Our Volunteer Service may have the name of a

patient-to-patient volunteer who has had the same surgery. If you would like, you can request that this volunteer visit you.

We hope this booklet has given you the information you need to understand your surgery. However, we know that it is a lot of information. It might seem overwhelming. You may want to read only the sections you need to read for each step. Please know that you will be well cared for. We are all here to answer your questions and help you as you move through your recovery period. If you have any questions or concerns, please discuss them with your doctor or nurse.

If you need to reach your doctor Monday through Friday from 9 a.m. to 5 p.m., you can call his/her office directly. After 5 p.m. and on weekends and holidays, please call (212) 639-7900 and ask for the head and neck fellow on call.

Head and Neck Surgeon _____

Telephone _____

Plastic Reconstructive Surgeon _____

Telephone _____

Head and Neck Surgical Nurse _____

Telephone _____

Plastic Reconstructive Surgical Nurse _____

Telephone _____



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