

Facial Reanimation Surgery- Nerve Transposition Procedure

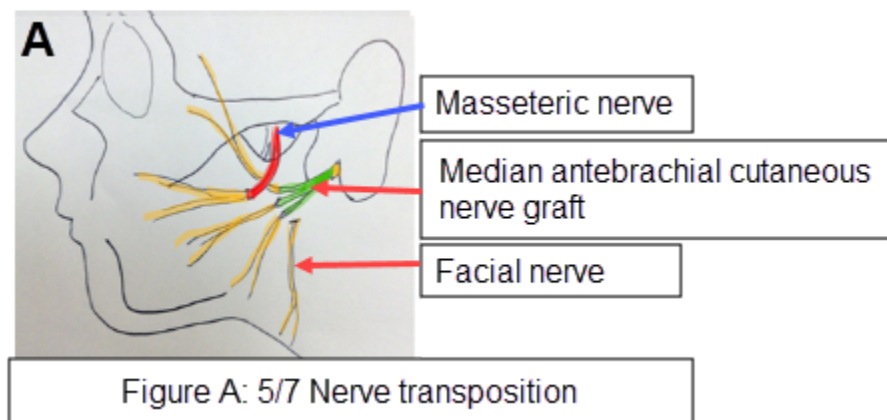
What is nerve transposition?

Nerve transposition is a procedure that uses a nerve serving one purpose, divides it, and repositions it to serve another purpose. This handout will discuss 2 nerve transposition procedures:

1. Using the nerve that controls chewing (masseteric nerve) to help move the face. This procedure is called **nerve to masseter transposition, or 5/7 nerve transposition**.
2. Using part of the nerve that controls tongue movement (hypoglossal nerve) to help move the face. This procedure is called a **12/7 nerve transposition**. More details of these two procedures are provided below.

What can I expect during nerve to masseter (5/7) transposition (Figure A)?

1. During this procedure, the surgeon makes an incision along the hairline that extends around the ear to access the masseteric and facial nerves.
2. The **masseteric nerve** is then connected to the buccal branch of the **facial nerve**. The buccal branch controls smiling.



3. Sometimes a **nerve graft** (nerve taken from elsewhere such as your lower leg) is needed to connect the masseteric and facial nerves. Your surgeon will

discuss the specifics of your procedure in more detail with you before the surgery.

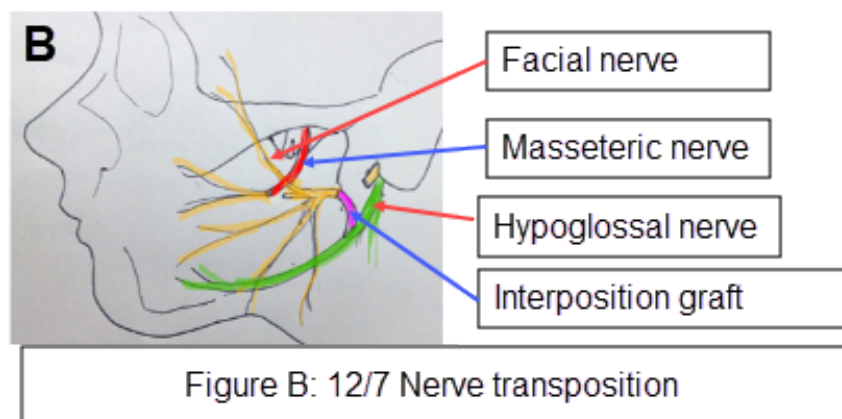
4. After recovering from surgery, you will learn how to make a smile by biting down (called “bite to smile”).

There are other nerves that help with chewing, so most patients do not notice long term weakness or trouble chewing after the transposition procedure.

Hypoglossal nerve transposition (Figure B)

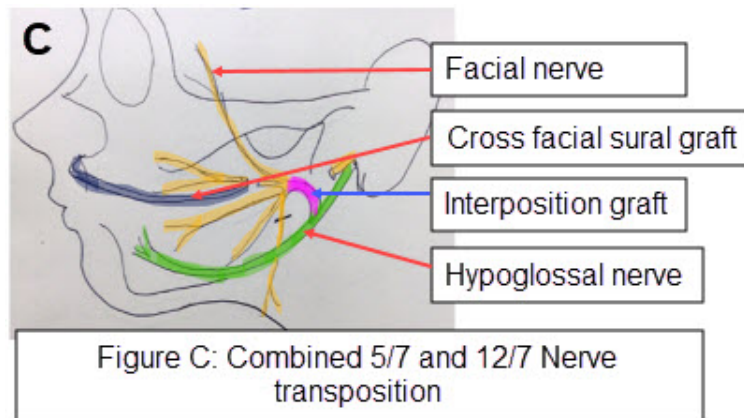
This procedure improves facial “tone,” or resting symmetry. The goal is to make the two sides of the face as similar as possible.

1. During this procedure, the surgeon makes an incision along the hairline that extends into the neck.
2. The surgeon finds the **hypoglossal nerve** in the neck and the **facial nerve** in the face.
3. The **hypoglossal nerve** is partially divided and surgically connected to the **facial nerve**. Sometimes a **nerve graft** (nerve taken from elsewhere such as your lower leg) is needed to connect the masseteric and facial nerves. Your surgeon will discuss the specifics of your procedure in more detail with you before the surgery.



- Because the hypoglossal nerve is only partially divided, most patients retain excellent tongue movement following the procedure.

- Sometimes, the two procedures described above are combined (**Figure C**) to combine the benefits of the individual procedures.



What items do I need to buy before the procedure?

- Vaseline®
- Q-tips® (cotton swabs)
- 1 bottle of Hydrogen Peroxide 3%

What are my instructions before surgery?

- Stop smoking e-cigarettes, cigarettes, and recreational marijuana at least 3 months before surgery, or as soon as possible.
- Stop chewing tobacco 4 weeks before surgery. Ideally you should quit all forms of tobacco permanently before the surgery. We are happy to provide resources to help you quit smoking before surgery.
- Do not drink alcohol 24 hours before surgery.
- Be as active as possible, ideally with a regular walking routine. Your goal is a minimum of three 10-minute walks every day. This will help your postoperative recovery.

What can I expect after the surgery?

Length of stay:

- You may be admitted for 1-3 days in the hospital. The exact length of your stay will be determined by a number of factors that vary between patients such as:
 - Need for postoperative monitoring
 - Level of walking strength and safety
 - Comfort with home care instructions
 - Pain control
 - Drain output

What food/fluid restrictions do I have after surgery?

- Ideally you will be walking, eating soft foods, and drinking within the first 24 hours after surgery. Please see more information on diet below.
- Eat softer foods, it should be easy to chew and move the face as it heals. For example, avoid gum chewing, heavy salads, or foods that require lots of chewing like meat or bread rolls. Your surgeon will give you guidelines on when it is okay to reintroduce these foods.
- It is helpful to eat smaller meals 4-6 times day.
- Eat more fiber to avoid constipation.
- Hydration is important. Your goal should be 64 ounces of non-alcoholic beverages per day (preferably water) **unless** you have pre-existing medical issues that make this dangerous (such as heart failure or kidney problems). If you do have a pre-existing condition, please follow your specialty doctor's instructions on fluid limitations.
- You will need extra protein to help heal as the body is under extra calorie needs during recovery. Visit the following link for information on increasing protein: <http://www.med.umich.edu/1libr/Nutrition/IncreasingProtein.pdf>

What kind of activity can I do after the surgery?

- Take gentle walks (for more than 10 minutes) at a comfortable pace every 3-4 hours while awake. This promotes better healing, and decreases swelling and the risk of a possible blood clot.
- Do not lift anything greater than 10 pounds for 2 weeks post-op. (For reference, a gallon of milk is 9.2lb).
- Do not perform any strenuous aerobic activity (such as running or biking) until cleared by your surgeon, typically 2 weeks after surgery.
- Keep your head elevated as much as possible for the first three days after surgery. When you sleep, you should do so either with your head propped on 2-3 pillows or, if more comfortable, in a reclining chair.

How will I take care of the surgery sites after surgery?

- Expect swelling in the face on the side of surgery. Swelling is typically the worst 3 days after surgery and then will gradually start to improve over the next 2 weeks, at which point most swelling will be gone. You will likely have a special wrap around your face after surgery to help minimize swelling. Your surgeon will let you know how long this should be worn.
- Facial Movement: You will not have an immediate improvement in moving the paralyzed side of your face because the nerve needs to regrow. Nerve regrowth happens at a rate of 1 millimeter (mm) per day. You likely will start to see improvement between **6 months and 1 year**. Every person is different and this timeframe will vary. There will be gradual changes over months.
- Wash your hands before any post-op care.
- Keep the surgical area clean and uncovered (open to air) as much as possible.
- Clean the incision twice per day with half-strength hydrogen peroxide and water.
 - Mix these in a 1:1 ratio: start with $\frac{1}{4}$ cup of each.

- After each cleansing, blot incisions dry and then place a thin coat of Vaseline over any incision.
- You can shower 24 hours after drains are removed, and run soap and water over the surgery sites.
 - Do not let the shower spray hit them directly.
 - **No** baths, hot tubs, or swimming until your surgeon approves.
- Drains are typically placed on the side of the face that was operated on. You will likely have 1-2 drains in your face on the surgical side. These will be cared for by your nurse while you are in the hospital. They are often removed during the hospital stay. If your surgeon determines you need to go home with a drain, you will receive instructions in the hospital on how to care for the drain.
- Sutures (stiches) may be absorbable (will dissolve on their own) or may need to be removed. If you have non-absorbable sutures, these will be removed at your first postoperative appointment, usually 5-10 days after surgery. This appointment will be arranged before you leave the hospital.

How do I manage my pain at home?

Medications

- You will receive information about your prescribed medication including instructions, dosage, and side effects from of a nurse at the time of discharge.
- Limit your use of narcotics (opioids). These drugs can have serious side effects. You will be required by Michigan law to sign a consent form before going home with a narcotic prescription.
- We encourage you to use Tylenol (maximum of 3000 mg/day) unless you have a liver condition, in which case you should first speak with you doctor. Ask your doctor before using an NSAID (such as Motrin/ibuprofen /Aleve) or aspirin as these can increase bleeding risk.

- **Do not** drink alcoholic beverages, operate machinery, or drive a car while taking pain medications.
- If you are taking a narcotic pain medication do the following to minimize constipation:
 - Take a gentle stool softener such as Colace 100mg twice a day, which is available over the counter (without a prescription),
 - Try to increase fiber choices in your diet
 - Drink plenty of water. If you have no medical restrictions, please make your goal at least 64 ounces per day.

Ice

Use ice to manage your pain using the instructions below. Be sure to wrap the ice in a cloth to avoid possibly injuring the skin.

- Ice your face for 20 to 30 minutes every 3-4 hours while awake. Do this for the first 2-3 days after surgery to help minimize pain and swelling.
- Do not place ice directly on the surgical site. You can place it 2 inches away from any incision.
- You can continue to ice after 3 days if you find this comforting.

When can I return to work?

- This will be determined by your surgeons and will vary with the type of work you perform. Please discuss this with your doctor before going home from the hospital.
- Please fax papers to: (734) 998-2938 and be sure to include your full legal name and date of birth. Disability papers will be processed as received and can take up to 7 business days.

When should I call the doctor?

Call your doctor if you notice any of the following symptoms:

- New or increasing redness
- New or increasing swelling
- New or increasing separation of your incision(s)
- Increasing or foul-smelling drainage from your incisions.
- Pain not controlled by pain medication when used as directed.
- Significant pain with movement, especially in the surgical limb.
- Any oral temperature over 101 degrees.
- Redness or swelling in either lower leg. This can be the sign of a rare but serious side effect of surgery called a deep venous thrombosis (DVT) or blood clot in the leg. Notify your doctor immediately if this develops so that they can further direct you.
- New or worsening shortness of breath
- New or worsening chest pain

What is the contact information?

- Monday-Friday from 8am-5pm:
 - Call Otolaryngology nursing (Team 4) (734) 615-8838
- After hours, on weekends, or on holidays:
 - Call hospital paging at (734) 936-6267 and ask for the Otolaryngology (ENT) resident on-call

Disclaimer: This document contains information and/or instructional materials developed by Michigan Medicine for the typical patient with your condition. It may include links to online content that was not created by Michigan Medicine and for which Michigan Medicine does not assume responsibility. It does not replace medical advice from your health care provider because your experience may differ from that of the typical patient. Talk to your health care provider if you have any questions about this document, your condition or your treatment plan.

Reviewed by: Shannon Rudy, MD
Edited by: Karelyn Munro, BA

Patient Education by [Michigan Medicine](#) is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Public License](#). Last Revised 09/2020