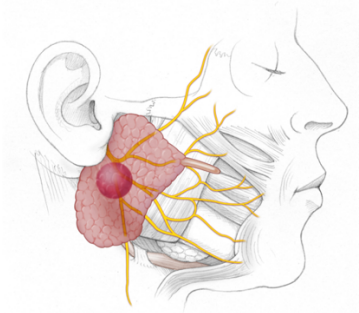


Explanation of your Tumor: Pleomorphic adenoma of the parotid



The parotid glands are the largest salivary glands and located on either side of the cheek in front part of the ear to the mid cheek and from the cheekbone to the lower edge of the jaw. Critical in surgery is preservation of the facial nerve that exits the skull below the ear and passes into and through the parotid gland as it divides into about five branches that go on to and innervate the muscles of facial expression (forehead wrinkle, eye closure, moving nose, and smile). The facial nerve separates the parotid gland into deep and superficial components (sometimes referred to loosely as “lobes” though the gland is one gland and not separated into components). The majority of pleomorphic adenomas are a single mass in the superficial part of the parotid, although a larger tumor may push nerve branches aside without invading the nerve.

Pleomorphic adenoma (a.k.a benign mixed tumors) is the most common BENIGN tumor of the salivary glands often located in your cheek. Your tumor is **NOT a cancer** and will not spread to other parts of the body. As a benign growth it will **grow at 1-3mm per year** and over decades it can be large enough to cause a cosmetic deformity especially if you get this tumor in your middle ages. There is a very small chance that your tumor will change into a cancer (1%) but this process takes several decades. The recommendations to treat are surgery vs. clinical monitoring (living with the tumor and having the doctor keep an eye on it).

Why did this happen? The underlying cause for this tumor is not very well understood. We do know that you did not get this from your parents, and you will not be getting this to your kids.

Treatment options

We would like to include you in decision options regarding treatment and it should be based on the risks and benefits for each option:

1. Clinical monitoring: this is an option where you do not treat the tumor but keep an eye on it and only consider treatment I do later date if it becomes a cosmetic deformity or shows signs of rapid growth.

This option is recommended for the following patients:

- A. A patient that does not have anxiety and will be ok with the below risks
- B. Is over the age of 60
- C. A patient with many other medical problems that increase risk of anesthesia

Benefits for clinical monitoring include:

- A. Avoiding surgery and the risks associated with surgery
- B. Avoiding anesthesia and the risks associated with anesthesia

Risks of choosing the option to monitor

- A. **Cancer:** There is a risk that your tumor can transform into a cancer. The risk is small and estimated to be 1-5% for every 10 years untreated. If your tumor transforms into a cancer it will double in size every month and can paralyze the facial nerve. If you notice your tumor is persistently growing at a noticeable rate over a 1month period or you have new symptoms of facial nerve weakness, you should follow-up sooner than your annual visit. If your tumor transforms into cancer there is treatment for it, but it requires surgery, radiation and sometimes chemotherapy.
- B. **Cosmetic deformity:** your tumor will grow at 1-3mm per year which can result in cosmetic deformity from the mass over time. Should you want surgery at a later date, the risks of anesthesia may be greater.

2. Operate: This option is recommended to patients with your tumor that are younger than 60 years old or those who cannot accept the risk of cosmetic deformity and potential malignant transformation.

Benefits of operating now is:

- A. Decreased anesthetic risks given younger age with less comorbidity.
- B. Smaller tumor may lead to a smaller operation.
- C. Decreased potential for malignant transformation.

Risk of surgery (parotidectomy) include but not limited to:

- A. **Facial nerve weakness-** weakness of the facial nerve results from either stretch or lack of blood supply. Both stretch and lack of blood supply happen as the tumor is peeled off the nerve. This results in a temporary weakness it is often limited to one branch of the facial nerve which recovers within 6 to 9 months. The branch that isn't the highest risk for this is the one that provides you with a symmetric smile called the marginal mandibular branch of the facial nerve. You are at a **5% risk of the temporary weakness to only the marginal mandibular branch of the facial nerve alone** which results in your smile being off by 2 mm.
- B. **Paralysis** (<1% risk). Paralysis demonstrates that there is no function at all to one or more branches of the facial nerve. If the branch is preserved, there is a 75% chance of recovery.
- C. **Fry syndrome** 1% this is a condition where
- D. **Hematoma** 1%- this is a blood clot under the wound that often requires a trip back to the operating room to remove it. It usually happens the first 24hrs but can take place days later. If you are at home and this happened place ice pack on the region and call us or go to the emergency room
- E. **Seroma/salivoma** 1%- this is clear fluid build up under the wound that is not an emergency but needs to be decompressed with a needle in the clinic. It may require more than one decompression but always resolves within one month.
- F. **Wound infection** 1% - this can be seen in patients one week after surgery and the scar becomes red and painful. There may be pus from the edges of the wound, fever and pain. If this is happening- call us and we will see you in the clinic to evaluate and start or change antibiotics
- G. **Facial volume defect** 1%- after the operation you will be swollen, and your reconstruction may appear overcorrected. But over the phone weeks this swelling will resolve, and your face will become symmetric. Over the course of several years your facial volume may not be symmetric as a result of scarring.

- H. **Need for future operation** (recurrence rates 3-5%) positive margins-if your tumor comes back, a second operation is required and sometimes this revision surgery is followed by radiation.
- I. **Abnormal Scarring**-if you have a prior history of abnormal scarring lecture surgeon no because measures can be taken to reduce this risk and avoid an unpleasant scar on your face.
- J. **Pain**-you will have pain for 3 to 5 days after this operation. We will provide you with narcotic pain pills and you can stop or switch to Tylenol when your pain is minimal.
- K. **Risk of numbness to the earlobe** is high and may be lifetime. The nerve for sensation to the earlobe runs very close to the parotid duct and is sometime sacrificed to avoid spilling the tumor. Not having sensation to your earlobe is annoying at first especially when trying to wear earrings but after nine months you should not be bothered by this even if the nerve does not recover because the body biofeedback mechanism compensate for the lack of sensation.
- L. **Risk from anesthesia:** General anesthesia is relatively safe in young healthy individuals. In older individuals especially with history of heart longer kidney problems, the risks of anesthesia are increased. These risks are not limited to but include: heart attack, blood clots to go to the brain, stroke and even death. Ask the anesthesiologist about your specific risk when you meet them during the preoperative visit.
 - a. Pain from the breathing tube: Your operation will require a breathing tube that will likely take the pathway of your mouth or your nose and can result in nose or throat pain after the operation. The operation does not in any way affect your swallowing, but the intubation can result in some sort throat or pain with swallowing.

Your next visit is the preoperative visit:

Priyanka will fill this section with Monika.

FYI---Press Ganey:

1. Friendly
2. Explanation
3. Concern demonstrated by RN
4. Include you in decision
5. Info about meds
6. f/u care instructions
7. Words you can understand
8. Time spent
9. Confidence in care provided
10. Likelihood to recommend

Dr. Sirjani Care's about you're your fears and he has devoted his career to improve the risks associated with parotid operations.

Preparation for the operation:

If you have a cardiologist – obtain clearance for parotid surgery

If you are on aspirin, ibuprofen, any herbal medications- they need to be stopped before surgery to reduce risk of bleeding. For patients taking coumadin- they need to inform the

doctor that prescribes the coumadin prior to the operation with Dr. Sirjani because they need to stop or changed to another medication to reduce the risk of bleeding from parotid surgery.

If you smoke, try to stop or reduce your smoking as it will increase risk of wound breakdown.

If you are a Diabetic, you are at a higher risk of wound infection and should have your primary doctor optimize your diabetic medications.

Operative consent may include:

Biopsy of the lymph nodes around the parotid if enlarged. This is done to avoid meeting a lymph node in the operation vicinity that maybe abnormal or has compromised blood supply. By removing the lymph node you should not have any deficits and it may reduce the risk of wound infection.

Reconstruction will consist restoring the volume loss in your face after tumor is removed- To reconstruct the volume balance to your face we have 3 conservative options:

Suprapubic dermal fat graft- this is like a tiny tummy tuck and that fat and skin is harvested from the area above your waistline at midline and used to fill the surgical defect in your face. You will have a scar at the level of the bikini line with a drain that will be removed the next day. Keep an eye on this wound after surgery as you can had a wound infection at this site as well. The downside to using any form of fat graph to restore facial volume is that if in the future you gain weight the fat grafting your face will also enlarge resulting in a need for liposuction or resection of some of the fat if it is cosmetic the undesirable.

Peri-umbilical dermal fat graft- sometimes the super pubic dermal fat graph is not the best option and our backup site for harvesting fat is around the belly button. The procedure is the same but this car will be in a different location.

Facelift turning flap- in older individuals they can use a facelift with laxity to their facial skin, we take advantage of the extra tissue and use it to Restore the volume defect. Essentially a mini facelift is performed on only the side with the tumor and instead of discarding the excess tissue we roll it out and use it to fill the whole.

On the day of surgery

Location:

Your operation will take place on the third floor of the cancer center and you will be given instructions by the anesthesia team on where to show up and what time.

Before rolling back to the operating room

Your surgeon we'll have a team of doctors and residents that he was she will be working with. They will greet you in the preoperative area and complete the checklist which will include possible signatures for the consents and you will be marked on your face to designate the operative site.

Follow-up Care Instructions:

You can **shower** the day after surgery but do not scrub your wound. It's okay to run soapy water on the wound. It's okay to get the drain wet. Oftentimes you will have small pieces of white tape called steri-Strips and it is okay to get them wet. If the Steri-Strips are curling or falling off it's okay to remove or trim the ones that are falling off. On your follow-up visit we will remove the remaining Steri-Strips. Once the Steri-Strips are removed you are to use **Vaseline**, vitamin E or----- on your incision to avoid drying which will lead to scabbing and itching and that can result in a more noticeable scar in the long run.

You will most likely be discharged with the **drain** in your face and being instructed on how to take care of it. Try not to sleep on the side that you were operated on because it will result in increased swelling and a decreased blood supply to the wound.

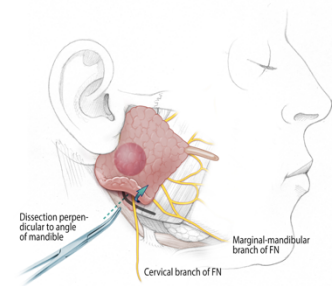
When you go home you should have a **bowel movement** by the third day after surgery. If you have not had a bowel movement by then consider using an over-the-counter suppository or fiber in your diet. If no results by day 5 notify our office.

Pain management: You should expect to have some pain in your face and will be instructed to take narcotic pain pills for the first three days after surgery. If your pain is less than that sometimes Tylenol can be used instead.

If you're starting to have spots in your wound that are tender and raised one to two weeks after surgery, your body is rejecting some of the sutures and we can see you in the office to remove these sutures that may not be visible to you.

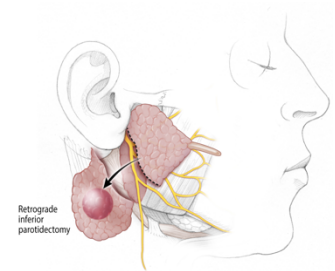
If you are interested in participating in research projects Please see next page.
If you are interested in donating to Dr. Sirjani's research please call or email Cliff Harris with the philanthropy department. Any amount helps us.

Operation Explained:



Traditional Parotidectomy (Figure 1)

The most common operation for pleomorphic adenoma is a superficial parotidectomy consisting of the removal of the outer part of the parotid down to the level of the facial nerve branches. During this traditional parotidectomy, the surgeon makes an incision (facelift incision or a incision in a skin crease that extends to the earlobe and usually in front of the ear) and retracts the parotid away from the ear and finds the facial nerve close to its exit from the skull. The nerve is followed forward (antegrade technique) and the tumor and the outer part of the parotid is removed. This can leave the patient with facial hollowing (from the volume loss) and places the branches of the facial nerve at risk for temporary weakness and potential paralysis. This extensive a procedure may be unnecessary as there is no oncologic benefit to removing this much parotid.



Minimally Invasive Retrograde Parotidectomy (Figure 2)

Pleomorphic adenomas and other benign tumors (and most malignant tumors) present as a single tumor in a localized part of the gland and are amenable to removing less tissue via a minimally invasive retrograde parotidectomy. This technique traces only the involved branches of the facial nerve backwards towards the common trunk of the facial nerve. Minimally invasive retrograde parotidectomy allows for smaller incisions, without compromising the removal of the tumor with a cuff of normal parotid tissue to the extent possible. The risk of facial hollowing is less as the entire outer part of the parotid is not removed. More important, this minimally invasive procedure reduces the risk of global facial nerve paralysis because only the branches that are near the tumor are dissected. The operation takes less than 2 hours and the patient may be discharged on the same day (outpatient) or the next day unless they are traveling from long distances or require monitoring of other medical issues.

Long term monitoring is advisable as there is about a 5% rate of recurrence over time regardless of which parotidectomy approach is done, as long as the surgery adequately removed the tumor. Often recommended is a post-treatment baseline MRI several months after surgery, and depending on the physical exam from time to time thereafter.

Recurrences are more difficult to treat. Revision surgery is technically more challenging than initial surgery as scar tissue makes dissection of the facial nerve far more difficult. In addition recurrences of pleomorphic adenoma may occur as multiple masses. A tumor board discussion should occur to review the options that include surgery, possible radiotherapy, or monitoring without intervention. Some patients have had surgery closer to home and seek consultation at Stanford for recurrent disease.

Stanford is a high volume center with over 100 parotidectomies annually, and a weekly head and neck tumor board. This experience allows for thorough discussion of options, reduced operative time, and improved cosmetic and facial nerve outcomes. Once recurrent, the risk for subsequent re-recurrence is also higher. For these special cases we sometimes use the operative microscope to provide magnification of the delicate nerve among the dense scar tissue during the operation.

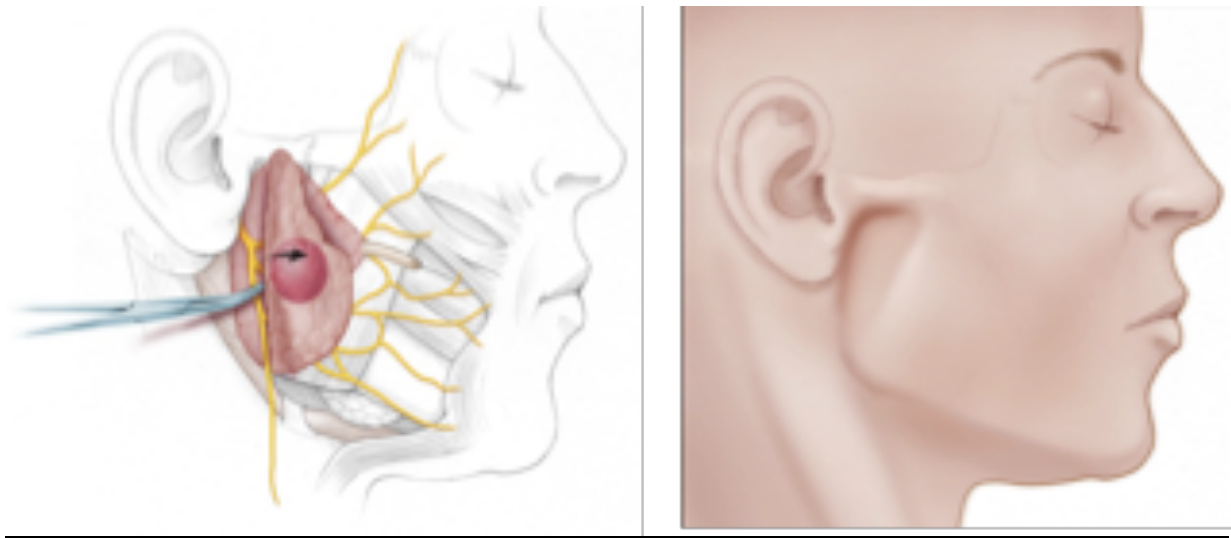


Figure 1: Traditional Parotidectomy

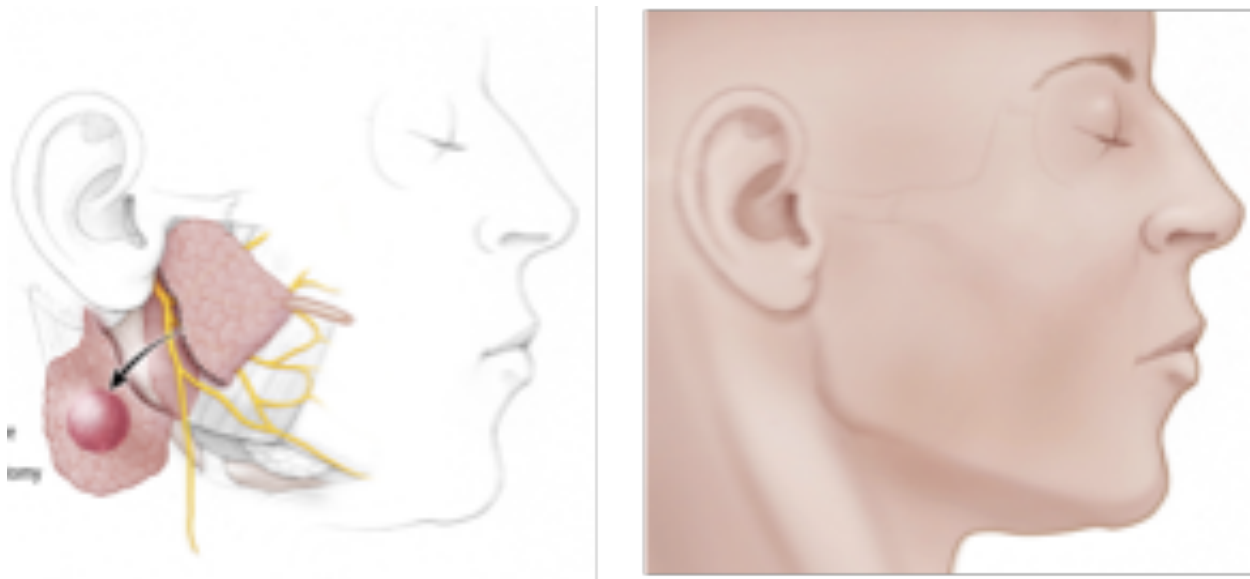


Figure 2: Minimally Invasive Retrograde Parotidectomy