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Head and Neck Implant Patients

BEFORE SURGERY

One week prior to your scheduled implant surgery you will stop taking any aspirin, aspirin containing or NSAID medications. A list of common medications in these categories is included in this packet. The reason for this request is because these medications have a tendency to make people bleed more easily during surgery and other procedures such as brachytherapy (the implantation procedure). Please call UCLA Radiation Oncology/Brachytherapy Department or your pharmacist if you have questions regarding medications.

You will come to UCLA Radiation Oncology/Brachytherapy Department (if you live in the area) for a pre-operative appointment approximately one week prior to your implantation procedure. During this visit, you will be evaluated by the medical staff, review and sign surgical consent forms (attached at the end of this packet) and have an opportunity to ask questions related to your scheduled procedure. You will also be shown where to check in on the day of your surgery (UCLA Ronald Regan Medical Center), as well as have labs drawn and an x-ray and EKG performed. If you live outside the Los Angeles Area, and will not be coming to UCLA Radiation Oncology/Brachytherapy Department for a pre-op visit, you are encouraged to carefully read the enclosed materials and call us with any questions you may have prior to the date of the procedure.

THE DAY BEFORE SURGERY

We ask that you consume a liquid diet only on the day before surgery (clear juices, Gatorade, broth, Jell-o) and please take nothing at all by mouth after midnight.

WHAT TO EXPECT THE DAY OF THE IMPLANT PROCEDURE

On the morning of surgery do not eat or drink anything. This includes gum and breath-mints which stimulate the digestive system. Medications that you take routinely for a heart condition, high blood pressure or gastric reflux should be taken with a sip of water. If you are a diabetic, do not take insulin or other diabetic medications prior to surgery.

If you have a stomach feeding tube (know as a PEG) do not use it after midnight. Insertion of a temporary feeding tube via the nose (NG tube) is a usual part of the procedure if you do not already have a PEG. It is usually removed before you go home.

You will check-in at the appointed time at the Admissions desk in the UCLA Ronald Regan Medical Center. Your loved ones are welcome to wait for you at the surgery waiting area. You will be undressed for surgery and introduced to the anesthesiologist who will discuss the anesthesia plan with you. You will be taken into the operating room and placed on your back on the operating table. The anesthesiologist will initiate the anesthesia and will be monitoring your vital signs throughout the procedure. General

sedation or full anesthesia will then be performed so that the procedure can begin. When you are correctly positioned, a nurse will place a Foley catheter in your bladder to drain your urine. A Foley catheter is a soft plastic or rubber tube that is inserted into the bladder through the urethra to drain the urine. Urinary catheters are used in both men and women while they are hospitalized for the implant procedure.

If you need protection of your airway during the implant, a surgeon will perform a tracheostomy. A tracheostomy is small tube that allows you to breathe through an opening in your neck (see more on tracheostomy tubes later). Direct examination of the mouth and throat are performed to evaluate your anatomy, and determine the extent of the problem. The implant (or brachytherapy) procedure itself involves placement of small, soft, hollow tubes or “catheters” called “flexi-guides” into the region of the tumor. It is these flexi-guides that will enable the delivery of radiation directly where it is needed. X-rays are often obtained to assist in the placement procedure and are used for part of the radiation dose calculation process. The time it takes to perform the implant procedure varies from patient to patient, from 2-6+ hours.

Once the implant is complete, you will be taken to the recovery area where you will stay until the anesthesia has worn off. This part of the process usually takes about one to two hours. You will then be transferred to the medical ward to stay overnight. If you have a tracheotomy you will not be able to speak because the air comes out below your vocal cords. This is normal and temporary.

The next step is the computerized dose calculation process. Usually the day after your implant surgery, you will have a CT scan that will be used by the dosimetrists to plan your radiation treatment. The planning portion of the treatment often requires 2-3 hours of waiting as calculations and final adjustments are made to ensure the best possible and most accurate treatment. Your patience is appreciated at this point. Though you will likely still be a bit drowsy from the anesthesia or medications, we recommend you bring books to read, crossword puzzles or other easily portable hobbies to keep occupied. A nurse and medical assistants will also be present to monitor you, help you reposition in bed and administer medicine as needed. You may have a PCA or “Patient Controlled Analgesia” which is an intravenous pump that administers pain medication when you press a button. In this case, you are in control of when you receive pain medicine, though the pump is programmed to prevent unintentional overdose.

Once the treatment preparations are complete, you will be transferred into the treatment room where your radiation therapist will connect the afterloading robot (the high dose rate or HDR unit) to the flexi-guides in your implant. During treatment you will be alone in the room for about 15-20 minutes while the radiation treatment is being given by the robot based on the treatment plan developed by the doctor. You will be monitored throughout this time by audiovisual camera and are asked to remain as still as possible during the treatment to prevent disturbing the implant.

You may receive more than one treatment per day and during the 4-6 hours between treatments you will be either in the UCLA Radiation Oncology/Brachytherapy Department or in the medical ward for routine monitoring. After treatment is completed for the day, you will be transported back to your room on the medical floor for overnight care.

Your loved ones are welcome to visit you at UCLA Radiation Oncology/Brachytherapy Department or at UCLA Ronald Reagan Medical. Overnight, you will be cared for by nurses who are responsible for your comfort; overnight visitors are not allowed. If you need help repositioning in bed or you are having pain or other discomfort do not hesitate to ask for assistance.

The next morning, you will be transported again back to UCLA Radiation Oncology/Brachytherapy Department for one or two more treatments. The treatments must be separated by a significant amount of time, so you will be waiting between treatments if you are having more than one in the same day.

Once all of your treatments are finished, the flexi-guides will be removed. Sometimes the removal of the flexi-guides can be done at UCLA Radiation Oncology/Brachytherapy Department, but often we will take you back to the operating room for this final part of the procedure. After the removal procedure you will again be monitored on the medical floor until you are ready for discharge. During this period the Foley catheter and other medical devices will be removed. We will assess your ability to swallow, breathe comfortably, and perform other normal activities. Most of the time the tracheostomy is removed before you leave the hospital.

You will be discharged from the hospital and sent home or to another suitable facility. It is important that you have someone else drive you home. If you have a PEG (gastrostomy feeding tube in your abdomen for nutritional support, see below for more details) it will usually stay in place for at least a month as you recover from the effects of treatment. If you are going home with tubes, arrangements will be made for a home health nurse to visit you to periodically evaluate and assist you.

One week after discharge home you should have an office visit with one of the UCLA Radiation Oncology/Brachytherapy Department physicians. Thereafter follow up visits will be according to your specific needs. Assuming everything is going smoothly, the second office visit is often 1-2 months later. Thereafter, UCLA Radiation Oncology/Brachytherapy Department follow-up appointments will alternate with your ear, nose and throat (ENT) doctor to evaluate your response to treatment every three-six months initially and then every year. If you live at a great distance and would prefer to have regular follow-up visits closer to home, let us know and we will assist you with making these arrangements.

COMMON SYMPTOMS ASSOCIATED WITH HDR BRACHYTHERAPY

The after effects associated with HDR brachytherapy combined with external radiation for head and neck cancer may include dry mouth, taste changes, throat pain and difficulty swallowing due to inflammation in the region that was implanted. These symptoms may build during the 1-2 weeks following the treatment, but should then begin to improve significantly and mostly resolve by 2-3 weeks later. Brachytherapy helps to minimize the long-term side effects of radiation therapy in the head and neck region such as dry mouth and decrease in taste. For more information on individual symptoms and treatment recommendations, see below.

Your priorities following HDR treatment include:

1. Proper care of tracheostomy to promote healing:

A tracheostomy is a surgical opening in the trachea that allows you to breathe while bypassing the upper airway, nose and mouth. A small, plastic tube is inserted through the opening in the base of the neck to keep the airway open. A temporary tracheostomy is performed with most oral implants due to the location of the surgical procedure and is usually removed soon after the completion of HDR brachytherapy treatment. With a tracheostomy in place, normal swelling associated with the procedure will not interfere with your ability to breathe. The tracheostomy will impair your ability to talk while it is in place and for a couple of weeks after it is removed while the site heals. You will be taught how to cover the tracheostomy site opening with two fingers when you wish to speak. Carrying paper and pen to communicate may be helpful. Removal of the tracheostomy tube is a step-wise procedure that occurs while you are in the hospital. During the implant removal the physicians will assess the condition of your airway. Over the next 24 hours the tracheostomy opening in the neck is plugged to determine if it is safe to remove the device. If you are able to breathe easily with the tube closed then it will be removed before you are sent home. The tracheostomy wound heals from the inside out over the course of 2-3 weeks. All that is required is that you keep the area clean and dry. With good care, scars are usually minor and tend to fade over time.

Home care for the healing tracheostomy site includes:

1. Clean the area gently with q-tips or cotton balls with normal saline solution (available at pharmacies) or sterile water twice per day until healed. Gently remove any secretions that have collected at the site and pat dry. Cover with a large non-stick bandage such as a "Band-Aid" or a clean dry gauze.
2. While cleansing the area, inspect the area for any redness, swelling or warmth around the site or smelly discharge. Also monitor yourself for fever. These may be signs of infection at the site. Notify UCLA Radiation Oncology/Brachytherapy Department or one of your other healthcare providers if you develop any of these findings.
3. **A provider should see you immediately if you develop any difficulty breathing.**

2. Nutrition

The effects of the tumor, radiation, chemotherapy, and surgery can all cause difficulties with swallowing. It may simply be temporary and due to acute inflammation or it may be more long lasting. Proper nutrition is essential for complete regression of the tumor, prevention of infection, and for recovery from the side effects of treatment. Taking sufficient high quality intake to maintain your weight is very important.

Oral intake should be encouraged as soon as possible following HDR, starting with liquids such as juices and broths, progressing to thicker liquids such as “Ensure” or “Boost” as soon as possible. Your intake should be at least 1500 calories per day (equivalent to 6 cans of “Ensure”) if your normal weight is 120lbs or less and, you will need 1800-2000 calories per day if your normal weight is more than 120lbs. As tolerated, the diet should progress to thick liquids, then to soft foods such as eggs, yogurt, and noodles and then on to regular solid foods. If your mouth is terribly sore, you may need to take pain medicine or apply numbing medicine (viscous xylocaine) to the mouth before you eat.

Feeding tubes: When you can't chew or swallow or have a blockage in your upper gastrointestinal tract, you may need to get nutrition through a feeding tube in your stomach or small intestine (enteral nutrition). A feeding tube inserted directly into the stomach through the abdomen is called a Percutaneous Endoscopic Gastrostomy tube (PEG tube). This allows you to receive nutritionally balanced liquid meals directly into your gastrointestinal tract. Such tubes may be used around the time you are having treatment as a temporary measure to promote nutrition or they may be used longer if necessary.

Some examples of liquid tube feeding products include “Boost”, “Ensure” and “Glucerna”. Tube feedings may be administered in three different ways. If you need continuous feedings or feedings for many hours in a row during the day, your provider may order a programmable pump that will automatically infuse the tube feeding as ordered. Most patients are able to manually administer “Bolus” tube feedings at several different times during the day with a large syringe. Sometimes feedings are administered by allowing the tube feeding to flow in by gravity.

Some other concerns related to your feeding tube are:

1. Keep the insertion site clean and dry. Be alert for any signs of infection such as redness, swelling, site tenderness or fever. Some crusty residue is normal and may be soaked off with a warm washcloth.
2. Keep the tube clear. Tubes will become clogged if tube feeding or medications are allowed to sit without proper flushing. Avoid non-recommended materials. Always flush PEG tube with water after every medication or tube feeding. If the tube becomes clogged, a warm water flush may loosen material or the tube may need to be replaced altogether. .

3. Call your provider if your PEG site appears infected, your tube is clogged and cannot be cleared, you are nauseated or vomiting, notice abdominal pain, or you have other questions or concerns about tube feedings/ PEG tube.

3. Oral Care

Common side effects of radiation include throat pain, dry mouth, taste changes and difficulty swallowing. This usually starts 7-10 days following treatment, lessening over the next 1-2 weeks. Some recommendations for managing these side effects of treatment include:

Sore/inflamed mouth and throat (stomatitis/mucositis) usually occur with external radiation therapy and appear during the second or third week of treatment. When external radiation is given before the HDR brachytherapy we usually allow 2-3 weeks for the mucous membranes to heal before we perform the implant. The implant also causes inflammation localized to the implanted region. Oral rinses are essential to cleanse the tissues and promote healing. It is recommended that you rinse your mouth and throat every 1-2 hours while awake with a solution consisting of dilute sodium bicarbonate (regular baking soda) that is just slightly salty to the taste. Try about ½ teaspoon in 6-8 oz of warm water.

There are other liquid compounds that may be prescribed for you if your mouth is terribly sore. One such product is a combination of liquid Benadryl, Maalox and lidocaine that coats and soothes the mouth and throat. You must avoid alcohol and tobacco, as these substances are very damaging to tissues treated with radiation. Other general recommendations after HDR treatment include:

- -avoid hard and coarse foods
- -avoid spicy and acidic foods that may irritate fragile tissues
- -eat soft, moist foods
- -use topical pain medicines or numbing agents before eating to help swallowing-
- use a soft toothbrush when cleaning teeth and avoid minimize wearing dentures except for meals
- continue to perform the fluoride treatments recommended by your dentist

contact your provider if pain is severe and the above measures have not been effective. You may require pain medicine for a while if the pain is severe and your mouth should be assessed for signs of infection.

Dry mouth (xerostomia) is a common side effect of radiation therapy to the head and neck. You may help prevent dry mouth by:

- performing regular mouth rinses with a dilute baking soda or salt solution as described above.
- -keeping your gums and teeth free of debris by brushing or at least rinsing the mouth after meals.
- avoiding mouthwashes that contain alcohol, as these will dry the mouth.
- eating moist foods and drinking fluids with meals. Avoiding thick and dry foods such as peanut butter or dry breads.
- moistening mouth before and between meals

- sucking on hard, sugarless candy such as lemon drops to stimulate saliva production
- if you do not have Glaucoma you may be able to take Salagen, a medication designed to stimulate saliva production. You may take this medication during the entire course of radiation therapy and for as long as you have benefit and no noticeable side effects thereafter. It is necessary to use Salagen for at least 2-3 months sometimes before you see results.

Taste changes may occur, as the taste buds are sensitive to radiation. Recovery of taste usually occurs 3-12 months following treatment. Some strategies to cope with taste changes include:

- identify and consume foods that have some taste for you
- some patients find that sweet and sour foods retain some taste
- experiment with different herbs and spices
- chew foods longer to allow more contact of the food with the taste buds
- clean mouth prior to meals to freshen mouth and remove residual tastes
- smell food before eating it as the senses of smell and taste are closely linked

4. Prevention of trismus. Trismus is the condition of restricted jaw movement due to the formation and shrinkage of connective tissues (fibrosis) in the jaw. Development of this condition can result in impaired nutrition, poor oral hygiene and pain. It is much easier to prevent trismus than to treat it after it has developed. Prevention of trismus involves daily stretching of the muscles of the jaw. At home, you may stretch the jaw muscles with the aid of stacked tongue depressors several times per day. Insert a stack of tongue depressors in the corner of the mouth and twist them to gently pry open the jaws. You may need to take pain medicine before this activity if your muscles are very sensitive. Do just a little every day rather than trying to do a lot all at once. Do not attempt to forcefully pry open the jaw all at once. Slow steady improvement is the rule.

5. Completion of all external beam radiation treatments as scheduled as part of treatment plan. External radiation therapy may be administered before or after the brachytherapy depending upon the type, location, and extent of your tumor. Your doctors will decide on a treatment plan that is best for your situation. It is very important, however, that your external beam radiation (EBRT) and brachytherapy start as planned on schedule. They usually begin within 2-3 weeks of one another, Call your radiation oncologist or UCLA Radiation Oncology/Brachytherapy Department if you have not heard anything about EBRT scheduling within 2-3 days following completion of HDR brachytherapy or vice versa.

6. Foley catheter

While you are hospitalized for your implant procedure, you will probably have a Foley catheter placed to drain your urine. This is temporary and will be removed before you are discharged home. A foley catheter is a soft plastic or rubber tube that is inserted into the bladder through the urethra to drain the urine. Urinary catheters are used in both men and women while they are hospitalized for the implant procedure. Most patients have the foley catheter removed before they return home, though occasionally a catheter must remain in place for a longer period of time if the patient is not able to urinate without it.

HEMOCARE INSTRUCTIONS FOLLOWING DISCHARGE

1. After you are discharged from the hospital, please keep your scheduled post-op appointment at UCLA Radiation Oncology/Brachytherapy Department
2. Contact your UCLA Radiation Oncology/Brachytherapy Department physician immediately if you have any unusual pain, bleeding, swelling, difficulty breathing or swallowing, or any other major symptoms.
3. The removal of the implant means all radioactivity is eliminated and that there is no residual radiation. Please contact us if you have any questions or concerns regarding radiation safety.
4. Some worsening throat pain is to be expected 7 to 10 days after completion of the implant. It will gradually improve over the next 2 weeks.
5. Please perform oral rinse and gargle every 1-2 hours (especially after meals) with ½ teaspoon bicarbonate of soda (Arm & Hammer) in 6 ounces of warm water.
6. Pain medications such as crushed aspirin or Tylenol tablets or other prescription medications may be helpful for throat pain. It may be especially useful 30 minutes before eating.
7. Over the counter antiseptic throat lozenges or viscous xylocaine diluted 50/50 in water may also give some temporary relief of throat symptoms.
8. Continue to take Salagen, liquid oral preparations and other medications prescribed by your Radiation Oncologist.

Finally, contact your E.N.T. and other physicians for additional instructions, medical recommendations and appointments.

9. Take all discharge medications as directed. You may want to fill these prescriptions prior to your surgery date so that you will be able to begin taking them right away following your implant procedure. You will most likely be prescribed the following medications:

Hydrocodone with Tylenol (Lortab or Vicodin are the brand names).

This medication may be used as needed for pain that is not responsive to Tylenol or other non-prescription pain relievers. 1 (and sometimes 2) tablets or 1-2 teaspoons of the liquid form may be taken as often as every four hours as needed. Please notify a UCLA Radiation Oncology/Brachytherapy Department provider if the Hydrocodone is not effective in treating your pain. Know too, that this medication has a strong tendency to constipate. You should increase fluids and fiber in your diet as well as take daily stool softeners (such as docusate sodium/Doss) and laxatives (sennakot/senna) while taking this medication. Remember, constipation is much easier to prevent than to treat after the fact and these bowel medications are easily obtainable from your local pharmacy or grocery store. You should not drive or operate dangerous equipment while on this medication

EXAMPLES OF MEDICATIONS TO DISCONTINUE ONE WEEK BEFORE IMPLANT PROCEDURE:

1. ANTICOAGULANTS: Coumadin, heparin, lovenox, fragmin
2. ANTI-PLATELET AGENTS: Ticlid, ecotrin, flolan, halfprin, persantine, plavix
3. ASPIRIN AND ASPIRIN CONTAINING PRODUCTS: Ancasal, arthinol, ASA, aspergum, astrin, ascriptin, bufferin, ecotrin, empirin, halfprin, novasen, zoprin, anacin, gensan, cama, excedrin, fiorinal, tecnal, vanquish, percodan, talwin.
4. NON-STEROIDAL ANTIINFLAMMATORY DRUGS (NSAIDs): Ibuprofen, advil, midol, nuprin, aleve, trendar, celebrex, vioxx, sulindac, diclofenac sodium, indomethacin, naproxen, ketoprofen.
5. Herbal medications: Gingko biloba, pine bark extract.

The above medications are held during the implant procedure as they have a tendency to thin the blood. It is routine to stop them prior to surgery to decrease the risk of bleeding during the procedure.

IF IN DOUBT ABOUT A MEDICATION AND WHETHER IT TENDS TO INCREASE BLEEDING, PLEASE CALL YOUR PHARMACIST.

MEDICATIONS SAFE TO TAKE THROUGHOUT TREATMENT:

1. Acetaminophen (Tylenol) and acetaminophen pain relievers.
2. Medications you take routinely for chronic health problems such as high blood pressure and heart problems.