INSTRUCTIONS DURING HEAD & NECK RADIOTHERAPY

Skin Care
Radiation treatments to the neck can make the treated skin dry, red, and itchy. These side effects usually occur after two weeks of treatment. Your nurse and doctor will supply you with samples of some skin care products to help moisturize the treated area. Please limit the use of moisturizers for the three hours before your treatment. Avoid sun exposure to the treated area during treatment and for a minimum of six months after. If the area is not covered and you have to be in the sun, use a sunscreen SPF 30 or above. This should be done not just during treatment but from now on.

Soaps
Any gentle soap such as Dove™ is fine to use on the treatment area during treatment. Avoid Ivory™ or Dial™ soap and deodorant soaps. Do not rub the skin. Pat dry with a cotton towel. Avoid using alcohol-based perfumes or colognes on the skin.

Sore Throat or Mouth
Your throat and mouth may become sore and dry after two weeks of treatment.
- Place a moist humidifier at your bedside for nighttime.
- Drink fluids, especially water. Avoid coffee, alcohol, acidic juices, or colas.
- Use a soft toothbrush and gentle toothpaste.
- Avoid commercial mouthwashes due to the alcohol they contain. Biotene makes an alcohol-free mouthwash. This can be purchased at most grocery and drug stores.
- Rinse your mouth with a solution made from 16 oz warm water, 1 tsp. baking soda, and ½ tsp. salt. Rinse with this solution for one minute and then spit. If this solution burns, omit the salt.
- If your throat gets sore and you have difficulty swallowing, let your doctor or nurse know. We have some solutions and medications we can give you to minimize the pain.

Nutrition
Good nutrition is extremely important during radiation therapy. Be sure you choose high calorie, high nutrient foods. Avoid hot, spicy, and acidic foods if your mouth or throat is sore. If you have difficulty swallowing during treatment please avoid foods that are hard to swallow and difficult to chew. Stick with small meals and soft foods. There are many supplements available at the grocery store such as Ensure™, Boost™, Sustacal™, and Instant Breakfast™.
MOUTH CARE DURING CANCER TREATMENT

It is very common to develop mouth sores while receiving chemotherapy, radiation, or biological treatments for cancer. The following guidelines may help prevent this:

- Have a dental checkup and cleaning twice a year. Your physician may be able to tell you when is the best time to go.
- Examine your mouth for sores or redness at least twice a day.
- Brush your teeth (use a toothpaste that contains fluoride) after meals and at bedtime. Use a soft-bristle brush or sponge toothette.
- If your white blood cell (infection-fighting cells) count, also called ANC, is less than 1,000 or if your platelet count is less than 50,000, use a sponge-tip applicator instead of a toothbrush and do not floss your teeth.
- After brushing your teeth, rinse your mouth with a baking soda and salt solution. Prepare a dry mixture ahead of time by combining 2 parts baking soda to 1 part salt. Put this in a container with a cover. Use 1/2 teaspoon of this mixture and mix in 4 ounces of water. **You should make it a point to swish and spit after meals and at bedtime. You may do this more often if you develop mouth sores.**
- Keep your lips moist with Vaseline® or KY Jelly®.
- Remove and clean dentures before meals and at bedtime.
- **For mouth dryness,** often caused by radiation therapy, ask your healthcare provider for suggestions of over-the-counter saliva substitutes. You may also try sucking on sugar-free candies or a small pad of butter. Frequent sipping and rinsing of your mouth with water can be helpful. If these suggestions do not provide relief from dry mouth, ask your healthcare provider for medications that may be given before or during your radiation treatment.

Avoid the Following

- Commercial mouthwashes. These can be very drying to tissues and decrease mouth healing if you have sores.
- Cigarettes and alcohol. These can irritate tissues they cross and slow healing.
- Hard-bristle toothbrushes. These can cause irritation and bleeding during brushing.
- Highly acidic juices (citrus, tomato); hard, coarse food; spicy or salty food. These all can be very irritating to open or healing mouth sores.
- Hot foods or drinks. These may burn the already damaged surfaces of your mouth.
Hints to Help with Eating When You Have Mouthsores

- Take pain medications as needed to control pain and make eating possible. Liquid solutions that anesthetize the mouth are helpful to some patients when taken prior to eating.
- Eat small, frequent meals. This limits the irritation to a sore mouth.
- When solids are not tolerated, use a liquid diet (Carnation Instant Breakfast™, Scandishakes™, commercial supplements, pasteurized eggnog, milkshakes; anything blended).
- Drink through a straw to bypass mouth sores.
- Fruit flavored beverages, and nectars are tolerated much better than acidic juices.
- Cook foods until tender, soft in texture.
- Eat soft foods that are at room temperature or luke-warm rather than hot (soups, mashed potatoes, eggs, quiche, cooked cereals).
- Dry foods can be soaked in liquid, or covered with gravies or sauces.
- Cold or frozen foods are sometimes tolerated by many patients (milk shakes, cottage cheese, yogurt, watermelon, Jell-O™, soft canned fruits, baby food, popsicles, ice cream, sorbet, frozen yogurt).

Notify Your Physician if:

- You have any mouth pain or throat pain.
- You notice redness, sores, or white patches on your tongue or inside your mouth.
- Your gums bleed.
- You have problems eating, chewing or swallowing.
Help for G-Tube Feedings at Home

The people listed below can help you with the management of your tube feedings at home:

**Your Dietitian** will help in choosing the right formula for you and will explain how to prepare and give the feedings. She can also help work with your insurance company to determine whether your feedings might be covered, or help you identify an inexpensive source for your tube feedings.

**Your Nurse** will teach you and your family about your equipment, dressing changes and can help with any problems that may develop.

**Your Pharmacist** is available to discuss any changes in medications that might need to be made to be able to safely deliver them through your tube.

**Your Doctor** will manage your overall welfare.

**YOU SHOULD CALL YOUR DOCTOR IF ANY OF THE FOLLOWING OCCUR:**
1. Your feeding tube becomes cracked, broken, or dislodged
2. Your tube is blocked and you cannot correct the problem
3. You experience any choking, coughing or difficulty breathing after your feedings
4. There is any redness, bleeding, or drainage from around the feeding tube site
5. You are extremely thirsty, you are not making normal amounts of urine, or the urine is dark in color
6. You are nauseated for longer than 24 hours, or have uncontrolled vomiting
7. You develop severe diarrhea or persistent constipation
8. There is a fever of 101 degrees or higher
9. You lose or gain more than two pounds in one week, or there is continued weight loss

**Tube Feeding Basics**

**What is a tube feeding?** Unlike regular eating, food is delivered by a tube skipping the mouth and esophagus. Instead, the feeding goes directly into either:
- The stomach (through a G tube)
- Below the stomach in a section of the small intestine called the jejunum (through a J tube)

Special liquid formulas are used that contain all the calories and vitamins you will need to maintain your weight and give you the energy for your normal activities.

**Why is a tube feeding needed?** There are several reasons for needing a feeding tube:
- A person cannot swallow food safely
- A person cannot eat enough to meet their nutritional needs. This can happen when there is a problem with appetite, chewing or swallowing

**How long will the tube feeding be needed?**
For many people the problem(s) preventing normal eating are temporary and the ability to swallow/eat will eventually return. Some people may need a tube feeding for their entire life.

**Can I still eat by mouth too?** **YES** **NO**
If there are no concerns of aspiration, where food enters the airway to the lungs rather than the esophagus (tube to the stomach), you will usually be allowed to eat or drink as much as you are able to. Problems requiring a feeding tube seldom get better overnight. Usually there is a transition period as you are able to eat more and can cut back on the amount of tube feeding. You will need to watch your weight carefully during this transition, adjusting the tube feeding as needed.
YOUR TUBE FEEDING PRESCRIPTION

The tube feeding formula you will be receiving is

Your scheduled feedings are:

<table>
<thead>
<tr>
<th>TIME</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Day 1: Take feedings at half the scheduled volume, Day 2: Begin full feedings

It is not critical that you stick to the exact schedule, but it is important that you take the total volume of feeding during the day. Space the feedings about 3 hours apart to allow the stomach to empty before the next feeding.

Try not to miss a feeding due to appointments or social activities. Once you are comfortable with the process, you will find it easy to take along a syringe and formula and "eat" on schedule.

The total amount of feeding you need each day is ____________________________

Additional water is needed to avoid dehydration. You will need a total of ___________

Lukewarm water should be flushed through the tube before and after each feeding:

______ ounces before and _________ ounces after each feeding or as boluses between

Check your weight each week and call with any continued weight loss! We may need to adjust the amount of tube feeding if you are not maintaining your weight.

The 6 Step Tube Feeding Process

1. Wash your hands, before you ever touch your tube feeding site or supplies.
2. Gather your supplies
   - Formula, gravity drip feeding set and/or syringe, an IV pole or wall hook
   - Clean cloths, can opener, water
3. Check your stomach contents if ordered by the doctor, or if you feel nauseated
   - Checking residuals before giving an additional feeding is needed if the person being fed is not able to communicate about how he/she is feeling.
   - Attach a syringe to the end of the feeding tube and slowly pull back on the plunger until you meet resistance. This will cause the stomach contents to enter the syringe. If the stomach is empty, little or nothing will be withdrawn. **If the amount of stomach content is greater than 100 cc, do not start your feeding.** Return it to your stomach and wait one hour then recheck. If it continues to be high, call your health care provider.
4. Check your tube placement and flush the tube with 60 cc of lukewarm water using a 60 cc syringe.
   Measure the length of the tube that exits from your stomach, and make sure this hasn’t changed from one feeding to the next. Feeding tubes do not dislodge easily, but it is possible and if it occurs, you should check with your doctor immediately.
   **Syringe feeding:** At this time the feeding can be given with a syringe by removing the plunger. Avoid spraying by pinching your feeding tube just below the cap before you open it, and then insert the tip of the syringe. Pour the prescribed amount of formula into the syringe, letting it flow into the tube slowly. Try to pace the feeding over at least 20 minutes.

5. **Attach the tubing to deliver feedings by the “Gravity Drip” method**
   Rinse or wipe off the formula can with a clean towel after shaking it to mix it well. Formula should be used at room temperature, unless you are using the remains of a can that has been refrigerated.
   Close the clamp/flow regulator on the tubing, fill the feeding container with the scheduled amount of formula and close the cap on the bag. Mark the date and time on any can with remaining formula, refrigerate immediately and discard open cans after 24 hours.
   Hang the feeding bag at least 2 feet above the head of the person being fed.
   Holding the tip of the tube over a cup or sink, slowly open the flow regulator and let formula fill the tubing, then tighten the flow regulator allowing the air to escape. Remove the protective cap from the end of the feeding set and insert the tip into the end of the feeding tube. Slowly open the clamp/flow regulator on the gravity-drip set.

6. **Deliver the formula and additional water needed for hydration**
   Adjust the clamp to allow the feeding to drip in over a minimum of 20 – 30 minutes.
   **Be sure to keep your head raised at a 45-degree angle or more throughout the feeding and for at least half an hour afterwards to reduce the risk of aspiration and nausea.**
   Close the flow regulator when the bag is empty and disconnect the feeding tube.
   Fill a 60 cc syringe with lukewarm water, attach the syringe to the feeding tube and push the water through the tube. Refill as needed to deliver the amount of extra water needed. **If preferred, some of this additional fluid needs can be dripped in using the gravity drip bags, after the formula is finished**
   Close the cap on the end of the G tube.

### Care for the Tube Feeding and Equipment

Opened ready to use formula may be refrigerated for up to 48 hours. Once open, formula should not be left hanging at room temperature for more than 4 - 8 hours.

Manufacturer’s recommendations are to use a new, clean bag every 24 hours if you are using a pump for continuous feedings.

If you are re-using your bag for intermittent feedings, and more feedings are to be given that day, rinse the tube feeding bag and tubing with plain, warm water. At the end of the day you will need to wash the bag with warm, soapy water, rinse it well and hang it upside down to dry.

Keep at least two sets of bags and tubing so that you can alternate them. While one bag is being used, the other can be drying. Discard bags if any formula begins to stick to the tubing and does not rinse clean, or if any leaks develop. Get new bags and tubing at least every week.
Giving Medications through the Feeding Tube

Most medications can be safely given through the feeding tube if you follow a few simple rules:

- Use liquid medication whenever possible, talk to your pharmacist about options.
- If your pharmacist says a pill can be crushed, make sure to crush it into a fine powder and mix it well with warm water.
- Never mix the medication with the tube feeding. Keep the tube clear by injecting at least 30 cc of warm water with a syringe, before and after giving each medication.
- If you are taking more than one medication, give each separately, flushing the tube with at least 30 cc in between. If taken together, medications can interact, clogging the tube.
- Check with your pharmacist or doctor about the appropriate timing of your medications, since some need to be given on an empty stomach while others require they be taken with food in the stomach. If you have a J tube, make sure the medication will work properly, since it will be bypassing your stomach acid.

Special Issues

Caring for the Skin around your Feeding Tube

1. Wash your hands
2. Gather the materials you need: gauze squares, cleanser, cotton tipped swabs, water
3. Until the site heals use a cleansing agent like hibiclens on a gauze square and clean carefully around the tube. Starting with the area next to the tube site, work out in widening circles. Once the site heals, cleaning with a mild soap and water is enough.
4. Use a cotton-tipped swab to clean under any disk next to the skin.
5. Rinse the skin using a gauze square with warm water. Allow area to dry thoroughly.
6. Other instructions as your doctor recommends

Change any dressings daily, cleaning as directed. Change it immediately if it becomes wet or soiled. Should leakage occur around the tube, appropriate skin barriers and wafers should be used to protect the skin while attempts are made to identify the cause.

Mouth Care while Tube Feeding

Continue to brush your teeth at least twice a day, as if you are using them to eat normally. You may need to use a soft toothette if your mouth is sore from chemotherapy or radiation treatments. Lack of saliva production will increase the risk of cavities in your teeth.

Preventing and Solving Common Problems

Constipation

Fluid diets will often be lower in fiber than the diet you normally eat. Any increase in the amount of pain medications can slow down the movement of food through the GI tract, so constipation is a common problem. Try these adjustments:
1. Increase the amount of water or fluid you take in by using extra water to flush your tubing.
2. Increase your activity level as much as possible. Regular walking is good exercise and can help stimulate the bowels.
3. Take 4 ounces of room temperature prune juice every morning, flush with water afterwards.
4. Use a fiber containing formula like UltraCal HN Plus, Fibersource, Probalance or Jevity. Talk to your dietitian about adding more fiber through the G tube with products like Benefiber or Metamucil. It is important to increase fiber slowly to avoid cramping and bloating.
5. Talk with your doctor about medications that might be contributing to your constipation.
   Call your health care provider if you have not had a bowel movement for a few days.
Diarrhea
Since many formulas are relatively low in fiber which helps hold fluid in the stool, your stools may be looser than normal while on tube feedings. They will often be soft, resembling a baby's stool. If the stools are watery or become very frequent, you may need to adjust your feedings.

Some common causes of diarrhea can be avoided:

<table>
<thead>
<tr>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tube feeding given too fast</td>
<td>Be sure each of your feedings is given over at least a half an hour. If diarrhea develops, try increasing the feeding time by 15 minutes. If you are on continuous feedings, try slowing the rate and extending the length of your feedings until you have taken all the formula.</td>
</tr>
<tr>
<td>2. Too much volume at each feeding</td>
<td>You may need to decrease the amount of tube feeding given at one time, which will require you to divide the total amount among more feedings during the day. The total volume should not change.</td>
</tr>
<tr>
<td>3. Contaminated formula or equipment</td>
<td>Never use any formula that has been left at room temperature for more than a couple hours, or refrigerated more than 24 hours. <strong>When in doubt, throw it out.</strong> Start with fresh formula and new equipment.</td>
</tr>
<tr>
<td>4. Medication</td>
<td>Some medications can cause diarrhea. Antibiotics can cause diarrhea in many people, sometimes through the entire course of antibiotic therapy. If the problem is severe, you should call your doctor to discuss your options.</td>
</tr>
</tbody>
</table>

Even while you have diarrhea, you should try to take all the tube feeding formula and fluid. If it persists for more than one day, increase the amount of fluid you usually take in by using extra water to flush your tube, by adding water to your formula or, if you are able, by drinking more. This will help prevent dehydration. If you have diarrhea more than two days, call your doctor.

Upset Stomach
Symptoms of stomach upset can include nausea, vomiting, gas, fullness, belching, heartburn and/or bloating. Many of the things that cause diarrhea can upset the stomach as well as:

<table>
<thead>
<tr>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Formula is too cold</td>
<td>Bring the formula to room temperature before using it for a feeding</td>
</tr>
<tr>
<td>• Feedings are not taken in an elevated position</td>
<td>Make sure the head of the bed is elevated at a 45 degree angle during the feedings. If possible, sit up during your feeding. It can also help to take a brief walk afterwards.</td>
</tr>
<tr>
<td>• Dehydration</td>
<td>Fever, diarrhea, sweating and some medications can increase your fluid needs. Once dehydrated, nausea is worse. Try adding extra water at the end of your feedings, or between feedings if you cannot tolerate the extra volume.</td>
</tr>
<tr>
<td>• Exertion</td>
<td>Try resting for at least an hour after feedings.</td>
</tr>
<tr>
<td>• Anxiety</td>
<td>Relax as much as possible during feedings. Watching TV, listening to music or reading during feedings can divert your attention and help you relax.</td>
</tr>
</tbody>
</table>
Aspiration
Aspiration occurs when fluid that should travel through the esophagus instead gets into the “pipe” that is the airway to your lungs. This can happen even when you are totally tube fed, if you are experiencing reflux from the stomach back into your esophagus. You can prevent aspiration by keeping your head elevated during feedings, and for half an hour afterwards.

Symptoms of aspiration:
- Change in skin color
- Rapid pulse
- Agitation
- Increased coughing, a “wet” sound while talking
- Decreased alertness

STOP the feeding immediately with any symptoms of aspiration and call your health care provider. You may need to have an evaluation with a speech therapist to make sure that tube feedings are safe for you.

Missed Feedings
It is important that you receive all your feedings if at all possible. If you are not able to follow your normal schedule for some reason, adjust your feedings in the following manner...

1. Continuous Feedings: If you must start your feeding late, extend the time your feedings run until you have taken all your usual volume. DO NOT increase the rate on the pump since this can cause stomach upset.

2. Intermittent Feedings: If you miss a feeding, DO NOT try to make up for it by doubling the amount at your next feeding. This can cause nausea and diarrhea. Try to make up the missed feeding at the end of the day, if possible. If this isn’t possible, and if you can handle slightly more volume, you can add a little to each of the remaining feedings that day. Unless this happens regularly, it won’t be a problem if you aren’t able to work in the entire volume.

Sick Days
Even on days when you are not feeling well, it is important for you to stay well nourished. However, you should not force feedings if you are nauseated or vomiting. The most important thing is to keep well hydrated. Use your 60 cc syringe and push these small amounts of water in frequently. If you aren’t able to take all your feedings for more than 48 hours, call your doctor.

Equipment Problems

Clogged Feeding Tubes
If tube feeding is left in the tubing, or the contents of the stomach leak back into the tubing, it can occasionally “clog” the tube.
- Insert an empty syringe into the end of the tube and pull back on the plunger, withdrawing as much from the tube as possible.
- Try flushing the tube with a small amount of warm water (10cc). Move the plunger back and forth to attempt to suction out the clog. If unsuccessful, wait 15 minutes and try these efforts once again.
- Call your health care professional if you are unable to clear the tube after trying two or three times.
Preventing Clogged Tubes
- Flush the tube regularly with water, even if you are not yet using it for your feedings.
- Crush medications in pill form into fine particles and dissolve in warm water before delivering the medication by syringe.
- Flush the tube before and after giving any medications or formula.

Tube Partially Out
- **DO NOT USE** the tube if it looks like it has come partway out of the tube site. Call your health care professional immediately, keeping the tube in place by taping it to the skin.
- If your tube comes completely out, it must be replaced as soon as possible or the opening into the stomach or intestine will begin to close. Go to the Emergency Room, taking the tube with you.

Remember to call if you have any questions. Keep your dietitian informed of your progress with your tube feedings by calling in every week or so with an update.

Dietitian/Phone number: _________________________________
Clinic Nurse: _________________________________

Colleen Gill, MS RD
Oncology Nutrition Services
University of Colorado Hospital
720-848-0464