used with external beam radiation therapy, but it may also be used alone or given after surgery.

During brachytherapy, your radiation oncologist places thin, hollow, plastic tubes into the tumor and surrounding tissue. These tubes are loaded with tiny radioactive seeds that remain in place for a short time to kill the cancer. The seeds and the tubes are then removed. With low-dose-rate brachytherapy, the seeds will be left in place for one to three days. For high-dose-rate brachytherapy, a single radioactive seed stops at various positions along the tubes for short times to deliver an equivalent dose and is usually given in a few sessions over two or more days. The exact type of brachytherapy and lengths of time the seeds are in place will depend on your cancer and treatment plan.

POSSIBLE SIDE EFFECTS

Side effects of radiation therapy are limited to the area that is receiving treatment. Side effects can include redness of the skin, sore mouth and throat, dry mouth, thick phlegm, alteration of taste, pain on swallowing, and hair loss on your head, neck and face. Fatigue or feeling tired is also very common. The way foods taste and amount of saliva you produce should improve after treatment ends. Side effects are different for each patient. In some cases side effects lessen within several weeks, but with more cases side effects lessen within several weeks, but with more intensive treatment the time for improvement takes longer.

Medications may be prescribed to make you as comfortable as possible. Nutritional supplements are important to help prevent weight loss. If at any time during your treatment you feel discomfort, tell your doctor or nurse. They can prescribe medicine to help you feel better. If you are malnourished or need more nutritional support, sometimes a feeding tube can be helpful.

CARING FOR YOURSELF DURING TREATMENT

Get plenty of rest during treatment, and don’t be afraid to ask for help. Follow your doctor’s orders. Ask if you are unsure about anything. Tell your doctor about any medications or vitamins you are taking, to make sure they are safe to use during radiation therapy. Eat a balanced diet. If food does not taste good or if you’re having trouble eating, tell your doctor, or dietitian. They might be able to help you change the way you eat. Treat the skin exposed to radiation with special care. Stay out of the sun, avoid hot or cold packs, only use lotions and ointments after checking with your doctor and clean the area with warm water and mild soap.

Good dental care can lessen the risk of mouth infection and tooth decay. Careful brushing of your teeth can help prevent decay, gum disease and jaw infections.

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maintained the ability to repair radiation-induced damage.

**Surgery**
Surgery is an important curative approach to treatment. From biopsy to evaluating the nose, mouth and throat with a flexible endoscopic camera, your surgeon can fully assess whether the tumor has spread. If surgery is a part of your treatment, your surgeon can remove the tumor with a rim of normal tissue. Depending upon the tumor location and how advanced it is, the surgeon may also surgically remove lymph nodes in the neck. The lymph nodes, part of the normal immune system, are a common path for spread in some tumors. Ask your doctor the likelihood of the lymph nodes being involved and whether you need surgery or radiation for the lymph nodes in the neck.

In some cases, surgery is combined with radiation. If radiation is the main treatment, some surgery may be helpful afterwards but is determined on a case-by-case basis. If surgery is the main treatment, radiation may be helpful after surgery if more advanced disease is found.

**Chemotherapy**
It has the ability to destroy cancer cell by different methods. Often, one to three different types of drugs may be combined to get the best outcome. The dose and schedule for treatment varies, but chemotherapy is usually delivered during radiation therapy. In some cases, chemotherapy may be helpful before radiation treatment. This type of treatment is called neoadjuvant chemotherapy.

**Targeted therapy**
It involves focusing anti-cancer treatment on certain molecules, such as epidermal growth factor receptor (EGFR). It can be used with radiation therapy as well.

**EXTERNAL BEAM RADIATION THERAPY**
Radiation therapy treatments are delivered in a series of painless daily sessions. Radiation treatments take only a few minutes, but each session takes 30 minutes to get checked in, change clothes, get into position and receive the radiation. Treatments are usually scheduled daily, Monday through Friday, for five to seven weeks.

Before beginning treatment, you will be scheduled for a planning session to map out the area your radiation oncologist wishes to treat. This procedure is called a simulation. Simulation involves having X-rays and/or a CT scan. To help you keep still during treatment, your doctor may use a plastic mask over your head and shoulders. You can see and breathe through this form-fitting device which is made to comfortably make sure movement during treatment is minimized. In some cases, other devices may help make sure the radiation to normal parts of the mouth is avoided.

- **Three-dimensional conformal radiotherapy (3-D CRT)** combines multiple radiation treatment fields to deliver precise doses of radiation to the affected area.
- **Intensity modulated radiation therapy (IMRT)** is a form of 3-D CRT that further modifies the radiation by varying the intensity of each radiation beam. This allows a precise adjustment of radiation doses to the tissue within the target area. Often, IMRT can help lessen the chance of having a dry mouth or other side effects after treatment is complete.

**INTERNAL RADIATION THERAPY**
Also called brachytherapy, this treatment involves inserting radioactive material into a tumor or surrounding tissue to give a more focused dose of radiation. For head and neck cancers, brachytherapy is