

# Proton Therapy for Patients with Head, Neck & Oral Tumors

Talk to your doctor or call Provision to learn how Proton Therapy can help you.

## Precision Therapy. Fewer side effects.

Proton Therapy is an advanced form of radiation therapy that precisely targets the tumor utilizing proton particles. Proton particles stop inside the body and do not deposit radiation beyond the tumor they are targeting, causing less damage to healthy tissue. Proton therapy is effective in treating a broad range of tumors including prostate, head and neck, central nervous system, lung, breast, gynecologic, sarcoma, gastrointestinal, pediatric cancers, and others.

## Head and neck treatment with protons compared to treatment with conventional radiation/X-rays/IMRT

Protons can be controlled with greater precision than X-rays. This means that more energy goes into destroying the tumor and less radiation is delivered to surrounding healthy tissue. For this reason, proton therapy is particularly good for treating tumors near healthy organs, including head and neck tumors.

Proton therapy allows doctors to deliver significantly less dose to the oral cavity, the swallowing muscles (post-pharyngeal constrictors) and the parotid glands, reducing the likelihood of side effects.

Visit [ProtonBenefits.com](http://ProtonBenefits.com) for more information.

## PROTON THERAPY BENEFITS

### Particularly effective in treating head & neck tumors

When treating head and neck cancer it's critical to protect the delicate organs that surround the tumor.

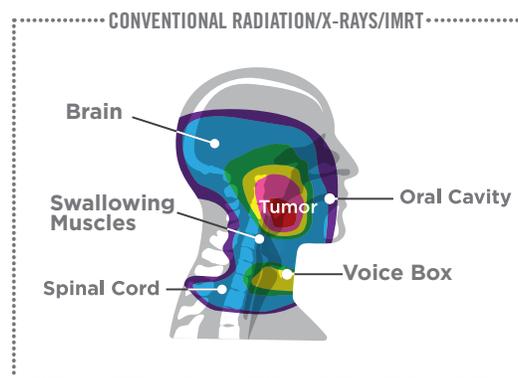
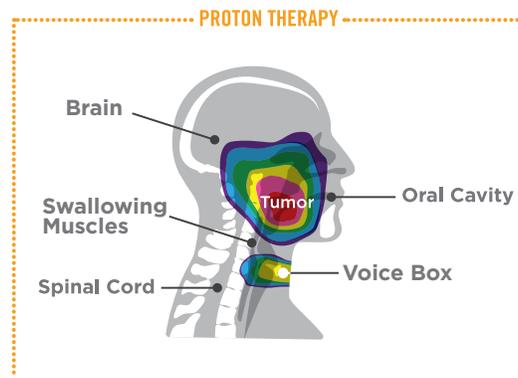
Proton therapy's precision allows doctors to avoid giving unnecessary radiation to healthy areas of the head and neck like the eyes, salivary glands, oral cavity, swallowing muscles, brain, and other tissue and organs near the tumor. This allows patients to avoid debilitating treatment related side effects such as vision problems, chronic dry mouth, dental problems or the inability to swallow. It may also allow patients to avoid needing a temporary or even permanent feeding tube.<sup>17,19</sup>

Preventing healthy areas of the head and neck from receiving radiation can correlate with a better quality of life for the patient during and after treatment.

### Head and neck tumors that can be treated with proton therapy:

- **Oropharynx** (area of the throat at the back of the mouth, including the tonsils and base of tongue)
- **Nasopharynx** (back of the nose where it meets the throat), Nasal (nose) cavity, Paranasal sinuses (sinuses in the face)
- **Laryngeal** (voice box)
- **Oral Cavity**
- **Salivary Gland**

## HEAD AND NECK TREATMENT COMPARISON



LESS RADIATION  MORE RADIATION

## Clinical Benefits of Proton Therapy

**27% reduction** in overall risk of needing a feeding tube for oropharyngeal cancer<sup>17</sup>

**Fewer side effects** first 3 months after treatment, quicker return to normal function in patients with oropharyngeal cancer<sup>18</sup>

**45% reduction** in overall risk of needing a feeding tube for nasopharyngeal cancer<sup>19</sup>

**Dramatic reduction** of negative impact on taste, nausea, and painful changes to the mouth in salivary gland treatment<sup>20</sup>

**44% relative increase** in disease free survival rate for nasal and paranasal sinus cavity cancers at 5 years<sup>21</sup>

Results from separate studies compared in some instances. The benefits of proton therapy for each individual patient will vary based on their individual diagnosis. A personal consultation with a proton-experienced radiation oncologist is recommended in all cases. Reference material and sources can be found at [ProtonBenefits.com](http://ProtonBenefits.com).

