

Proton Therapy Backed by Research

Scientific research studies published in peer-reviewed journals and presented at national medical conferences have demonstrated the safety and effectiveness of proton therapy. Following is a small sampling of recent examples:

INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY, BIOLOGY & PHYSICS, 2013 –

The rate of secondary cancers among patients treated with proton therapy was found to be substantially reduced (30 percent to 40 percent), compared to cancer patients treated with X-ray therapy, according to a study led by Massachusetts General Hospital. This study involved a wide variety of tumor sites (prostate, head and neck, central nervous system, gastrointestinal tract and others).

AMERICAN SOCIETY FOR RADIATION ONCOLOGY, 2013 –

A study led by MD Anderson Cancer Center showed that among patients with oropharyngeal (middle throat) cancer, the use of feeding tubes in patients treated with proton therapy decreased by more than 50 percent, compared to those treated with X-ray therapy. Toxicity levels were also found to be lower with proton patients compared to X-ray patients, according to research presented in September 2013.

AMERICAN SOCIETY OF CLINICAL ONCOLOGY, 2013 –

Children whose brain tumors were treated with proton therapy had stable cognitive function (drop in average IQ of 1.8 points after treatment). By comparison X-ray radiation in such patients was associated with a significant decline in IQ (drop in average IQ of 4 points), according to research led by Baylor University and presented in June 2013.

INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY, BIOLOGY & PHYSICS, 2011 –

A study of lung cancer patients led by MD Anderson Cancer Center found a marked reduction in the rate of radiation pneumonitis in patients treated with protons vs. those treated with X-ray therapy (11 percent for proton vs. 44 percent for X-ray). (Pneumonitis is a radiation-induced “pneumonia,” which can be severe or even life threatening.)

AMERICAN COLLEGE OF RADIOLOGY, 2011 –

After reviewing all of the available peer-reviewed literature on proton therapy, an expert panel from the American College of Radiology concluded that proton beam therapy is equally appropriate and beneficial in treating Stage T1 and T2 prostate cancer, compared to intensity-modulated radiation therapy, 3-D conformal X-ray therapy and brachytherapy.

THE JOURNAL OF CLINICAL ONCOLOGY, 2010 –

This study looked at the quality of life of prostate cancer patients treated with proton therapy. Researchers at Loma Linda University Medical Center and Massachusetts General Hospital found that giving patients a substantially higher radiation dose with protons preserved the same quality of life compared to patients who received the standard proton radiation dose.

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