

Protons for early stage NSCLC???

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Disclosure

- None to declare



I am still sober ...

Critical Review

Proton Therapy in Children: A Systematic Review of Clinical Effectiveness in 15 Pediatric Cancers

Roos Leroy, PhD,* Nadia Benahmed, MSc,* Frank Hulstaert, MD,* Nancy Van Damme, PhD,† and Dirk De Ruyscher, PhD‡

Leroy et al. Int J Radiat Oncol Biol Phys 2016

Radiotherapy and Oncology 83 (2007) 110–122
www.thegreenjournal.com

Systematic review

A systematic literature review of the clinical and cost-effectiveness of hadron therapy in cancer

Mark Lodge^{a,*}, Madelon Pijls-Johannesma^b, Lisa Stirk^c, Alastair J. Munro^d, Dirk De Ruyscher^{b,e}, Tom Jefferson^a

VOLUME 25 · NUMBER 8 · MARCH 10 2007

JOURNAL OF CLINICAL ONCOLOGY

REVIEW ARTICLE

Proton Therapy in Clinical Practice: Current Clinical Evidence

Michael Brada, Madelon Pijls-Johannesma, and Dirk De Ruyscher

Radiotherapy and Oncology 103 (2012) 5–7



ELSEVIER

Contents lists available at SciVerse ScienceDirect

Radiotherapy and Oncology

journal homepage: www.thegreenjournal.com



Systematic review

Charged particles in radiotherapy: A 5-year update of a systematic review

Dirk De Ruyscher^{a,*}, M. Mark Lodge^b, Bledwyn Jones^c, Michael Brada^d, Alastair Munro^e, Thomas Jefferson^f, Madelon Pijls-Johannesma^a

But the story is not black or white ...

Critical Review

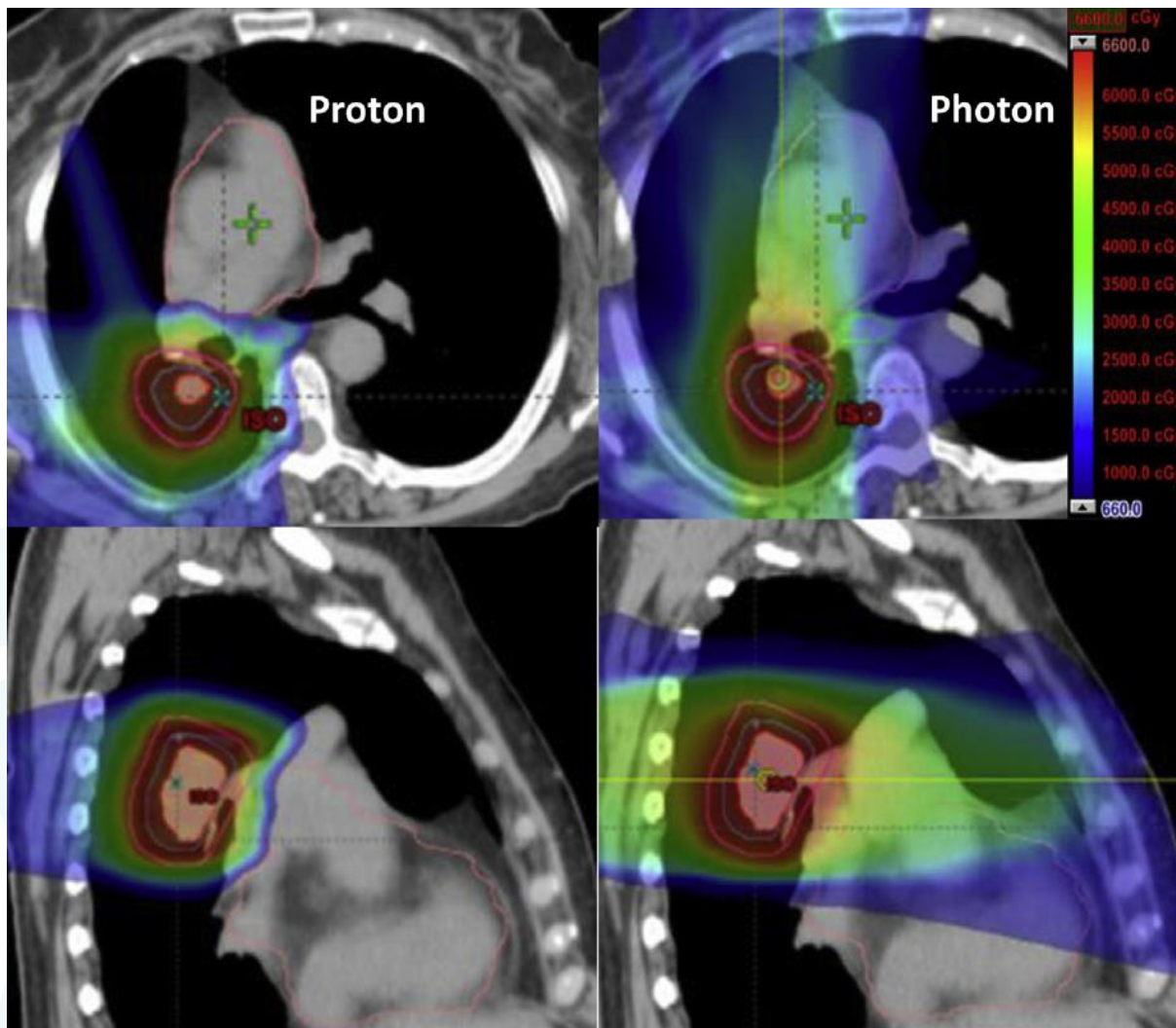
Consensus Statement on Proton Therapy in Early-Stage and Locally Advanced Non–Small Cell Lung Cancer

Joe Y. Chang, MD, PhD,^{*} Salma K. Jabbour, MD,[†]
Dirk De Ruyscher, MD,[‡] Steven E. Schild, MD,[§] Charles B. Simone, II, MD,^{||}
Ramesh Rengan, MD,[¶] Steven Feigenberg, MD,[#] Atif J. Khan, MD,[†]
Noah C. Choi, MD,^{**} Jeffrey D. Bradley, MD,^{††} Xiaorong R. Zhu, PhD,^{‡‡}
Antony J. Lomax, PhD,^{§§} and Bradford S. Hoppe, MD^{||||}, on behalf of the
International Particle Therapy Co-operative Group (PTCOG) Thoracic
Subcommittee

Photon SBRT in “moderately central” tumoren: “PTV adjacent to the central structures”

- 60 Gy/ 8 fractions
- N=80
- Only DVH aorta published: No patient had 10 ml aorta with a dose > 55 Gy
- 10 (12.8 %) patients grade 5 toxicity (not treatment related according to the authors)
- 6 (7.6 %) patients grade 5 toxicity (treatment related according to the authors)
- 4/78 (5.1 %) grade 5 bleeding

Proton SABR in central stage I NSCLC



Protons spare more of the bronchial tree, the lungs and the spinal cord

Conclusion

- Proton SBRT makes sense depending on the dosimetry:
 - Some central tumors
 - Tumors close to the brachial plexus
 - Multiple lung tumors
- Costs should take into consideration the reduced number of fractions compared to conventionally fractionated radiation