# 10 FACTS about radiotherapy



Almost a **THIRD** of patients who need radiotherapy **DO NOT** receive it.<sup>3</sup>



By 2035, if every cancer patient who needs radiotherapy has access to it, almost

### ONE MILLION

lives will be saved every year worldwide.<sup>4</sup>



Radiotherapy alleviates cancer symptoms, such as pain, and **IMPROVES** patients' quality of life.<sup>4-8</sup>



State-of-the-art radiotherapy can specifically match the shape of the tumour it is **TARGETING** 

 thus limiting damage to nearby healthy organs and tissue.<sup>9 10</sup>

Advances in radiotherapy mean **MORE** patients than ever can access treatment – for example, in cases of cancer that are not eligible for surgery.<sup>16-18</sup>



The demand for radiotherapy will . increase by **16%** by 2025<sup>23</sup> but current capacity is insufficient to meet this demand.<sup>2</sup>



#### Radiotherapy SAVES LIVES – and is a key part of

 and is a key part of curative treatment for many types of cancer.<sup>25</sup>



## Radiotherapy is NOT INVASIVE

many patients receiving
radiotherapy can still go to work
and carry on with day-to-day life.<sup>5</sup>



Continuous improvements in delivery of radiotherapy have allowed treatment times to be reduced; for example, the time for an average radiotherapy course for breast or

prostate cancer has **HALVED** in the past two decades.<sup>11-15</sup>



#### There is significant VARIATION across Europe in access to

radiotherapy treatment, services and trained staff.<sup>1 19 20</sup>

These facts are summarised from the report Radiotherapy: seizing the opportunity in cancer care. For more information visit: mariecurielegacy.org

# More about radiotherapy:

Today, radiotherapy is a safe and highly effective cancer treatment, using ionising radiation, predominantly high-energy X-rays. Radiotherapy allows cancer specialists to precisely target and destroy tumour cells by delivering the most appropriate and effective dose possible.

Radiotherapy is recommended as part of treatment for more than 50% of cancer patients.<sup>1 21</sup> It can be used on its own or to complement or enhance the effects of other treatments, for example to shrink or control a cancer before and after surgery.<sup>4 5</sup>

Technological advances allow modern radiotherapy to precisely target each patient's cancer, with all team members working to ensure that the dose and mode of radiotherapy is optimised.

- Borras JM, Lievens Y, Dunscombe P, et al. 2015. The optimal utilization proportion of external beam radiotherapy in European countries: An ESTRO-HERO analysis. Radiother Oncol 116(1): 38-44
- Borras JM, Lievens Y, Barton M, et al. 2016. How many new cancer patients in Europe will require radiotherapy by 2025? An ESTRO-HERO analysis. Radiotherapy and Oncology 119(1): 5-11
- Borras JM, Grau C, Corral J, et al. 2018. Estimating the number of fractions by tumour site for European countries in 2012 and 2025: An ESTRO-HERO analysis. Radiother Oncol 126(2): 198-204
- Atun R, Jaffray DA, Barton MB, et al. 2015. Expanding global access to radiotherapy. The Lancet Oncology 16(10): 1153-86
- Thompson MK, Poortmans P, Chalmers AJ, et al. 2018. Practicechanging radiation therapy trials for the treatment of cancer: where are we 150 years after the birth of Marie Curie? Br J Cancer 119(4): 389-407
- Jacob S, Wong K, Delaney GP, et al. 2010. Estimation of an optimal utilisation rate for palliative radiotherapy in newly diagnosed cancer patients. Clin Oncol (R Coll Radiol) 22(1): 56-64
- McDonald R, Ding K, Brundage M, et al. 2017. Effect of radiotherapy on painful bone metastases: A secondary analysis of the ncic clinical trials group symptom control trial sc.23. JAMA Oncology 3(7): 953-59
- Westhoff PG, de Graeff A, Monninkhof EM, et al. 2015. Quality of Life in Relation to Pain Response to Radiation Therapy for Painful Bone Metastases. Int J Radiat Oncol Biol Phys 93(3): 694-701
- Mazzola R, Fiorentino A, Ricchetti F, et al. 2018. An update on radiation therapy in head and neck cancers. Expert Review of Anticancer Therapy 18(4): 359-64
- Garibaldi C, Jereczek-Fossa BA, Marvaso G, et al. 2017. Recent advances in radiation oncology. ecancermedicalscience 11: 785
- Owen JR, Ashton A, Bliss JM, et al. 2006. Effect of radiotherapy fraction size on tumour control in patients with early-stage breast cancer after local tumour excision: long-term results of a randomised trial. *Lancet Oncol* 7(6): 467-71
- Arcangeli S and Greco C. 2016. Hypofractionated radiotherapy for organ-confined prostate cancer: is less more? Nat Rev Urol 13(7):

400-8

- Dearnaley D, Syndikus I, Mossop H, et al. 2016. Conventional versus hypofractionated high-dose intensity-modulated radiotherapy for prostate cancer: 5-year outcomes of the randomised, non-inferiority, phase 3 CHHiP trial. The Lancet Oncology 17(8): 1047-60
- Schäfer R, Strnad V, Polgár C, et al. 2018. Quality-of-life results for accelerated partial breast irradiation with interstitial brachytherapy versus whole-breast irradiation in early breast cancer after breastconserving surgery (GEC-ESTRO): 5-year results of a randomised, phase 3 trial. The Lancet Oncology 19(6): 834-44
- Haviland JS, Owen JR, Dewar JA, et al. 2013. The UK Standardisation of Breast Radiotherapy (START) trials of radiotherapy hypofractionation for treatment of early breast cancer: 10-year follow-up results of two randomised controlled trials. *Lancet* Oncol 14(11): 1086-94
- Tree AC, Khoo VS, Eeles RA, et al. 2013. Stereotactic body radiotherapy for oligometastases. Lancet Oncol 14(1): e28-37
- Rosenzweig K. 2017. Stereotactic Body Radiation Therapy as an Alternative to Surgery in Early-Stage Non-Small-Cell Lung Cancer. Oncology (Williston Park) 31(6): 492-8
- Videtic GM, Stephans K, Reddy C, et al. 2010. Intensity-modulated radiotherapy-based stereotactic body radiotherapy for medically inoperable early-stage lung cancer: excellent local control. Int J Radiat Oncol Biol Phys 77(2): 344-9
- Grau C, Defourny N, Malicki J, et al. 2014. Radiotherapy equipment and departments in the European countries: final results from the ESTRO-HERO survey. Radiother Oncol 112(2): 155-64
- Lievens Y, Defourny N, Coffey M, et al. 2014. Radiotherapy staffing in the European countries: Final results from the ESTRO-HERO survey. *Radiotherapy and Oncology* 112(2): 178-86
  Borras JM, Barton M, Grau C, et al. 2015. The impact of cancer
- Borras JM, Barton M, Grau C, et al. 2015. The impact of cancer incidence and stage on optimal utilization of radiotherapy: Methodology of a population based analysis by the ESTRO-HERO project. Radiother Oncol 116(1): 45-50

