

Table S2a: Beam parameters used for the treatment of the cats included in the SoC arm

Name	Field Size [cm]	Bolus [cm]	Prescription Dose [Gy]	Number of Fraction	Total Dose [Gy]	Energie Electron [MeV]	Date first RT	Date last RT
1	4 x 4	0.5	4.8	10	48	6	14.01.2019	18.01.2019
2	4 x 4	0.5	4.8	10	48	6	21.01.2019	25.01.2019
3	6 x 6	0.5	4.8	10	48	6	01.04.2019	05.04.2019
4	6 x 6	1	4.8	10	48	9	07.06.2019	14.06.2019
7	4 x 4	0.5	4.8	10	48	6	16.09.2019	20.09.2019
9	4 x 4	0.5	4.8	10	48	6	25.11.2019	29.11.2019
10	4 x 4	1	4.8	10	48	12	09.12.2019	13.12.2019
13	4 x 4	0.5	4.8	10	48	6	04.05.2020	08.05.2020
16	4 x 4	0.5	4.8	10	48	6	26.10.2020	30.10.2020

Table S2b: Beam parameters used for the treatment of the cats included in the FLASH arm

Date	Name	Treatment Area diameter [cm]	Bolus [y/n]	Prescription Dose at the surface [Gy]	Delivered Dose Mesured at the surface [Gy]	Mean Dose Rate [Gy/s]	Instantaneous Dose Rate [Gy/s]	Grid Tension [V]	Number of Pulses	Frequency [Hz]	Pulse Width [μ s]	SSD [cm]	Treatment Time [ms]
06.06.2019	5	2.6	n	30	30.26	1513	5.60E+06	213	3	100	1.8	31.8	20
26.08.2019	6	2.6	n	30	29.99	1500	5.55E+06	215	3	100	1.8	31.8	20
17.09.2019	8	2.6	n	30	29.71	1486	5.50E+06	216	3	100	1.8	31.8	20
29.01.2020	11	2.6	n	30	30.27	1514	5.61E+06	214	3	100	1.8	31.8	20
10.02.2020	12	2.6	n	30	32.16	1608	5.96E+06	218	3	100	1.8	31.8	20
08.06.2020	14	2.6	n	30	31.55	1578	5.84E+06	215	3	100	1.8	31.8	20
13.07.2020	15	2.6	n	30	29.72	1486	5.50E+06	213	3	100	1.8	31.8	20

Table S2c: Beam parameters used for FLASH irradiation on the skin of pigs

Field Size [cm]	Volume [mm ³]	Prescribed Dose [Gy]	Mean Dose Rate [Gy/s]	Instantaneous Dose Rate [Gy/s]	Grid Tension [V]	Number of Pulses	Frequency [Hz]	Pulse Width [μ s]	SSD [cm]	Treatment Time [ms]
3.5 X 4.5	24	31	163	8.61E+05	300	20	100	1.8	78.5	190
8 X 8	100		163	8.61E+05	300	20	100	1.8	78.2	190