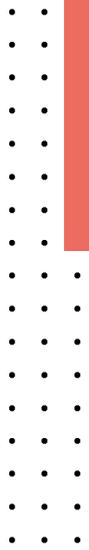


SBRT

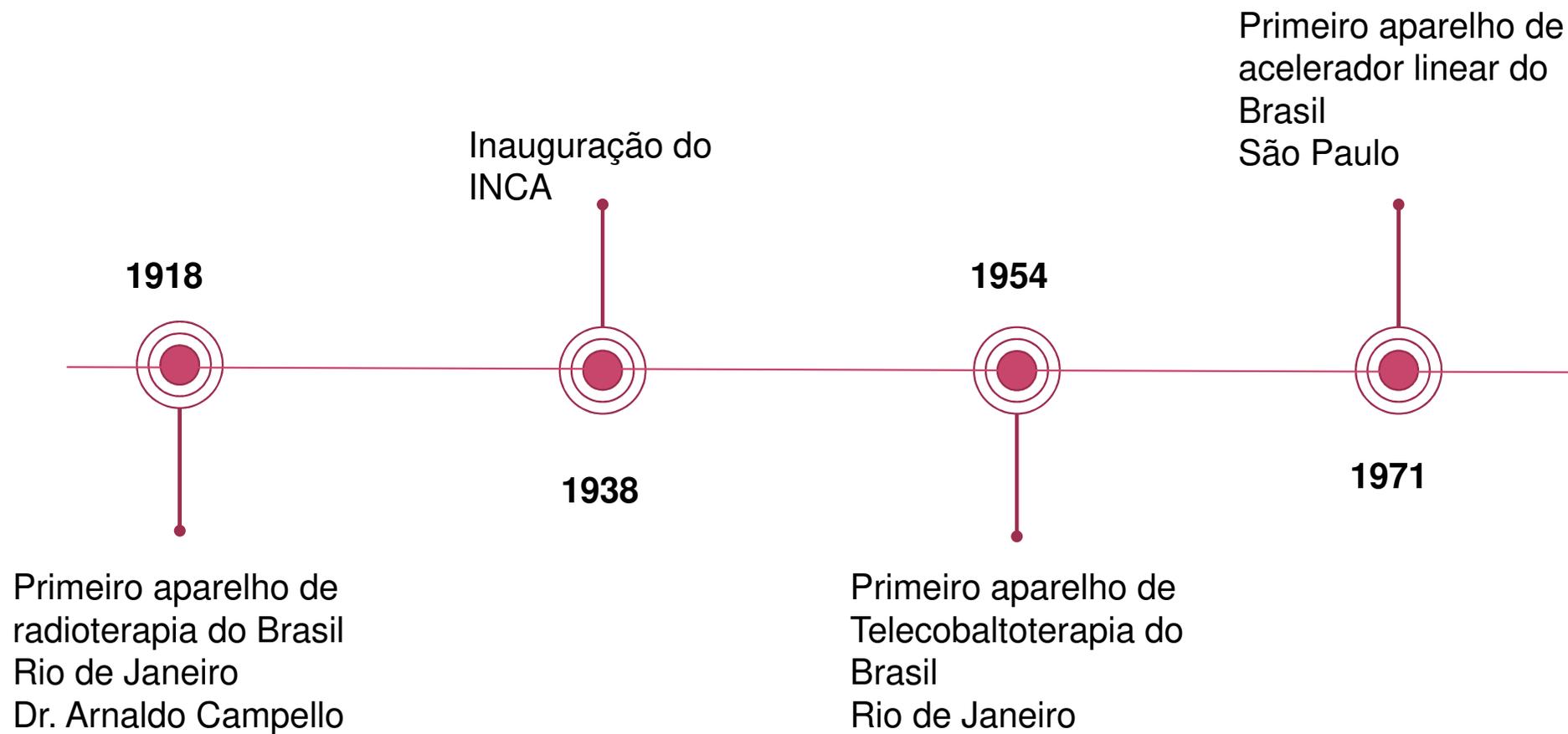
SOCIEDADE
BRASILEIRA DE
RADIOTERAPIA

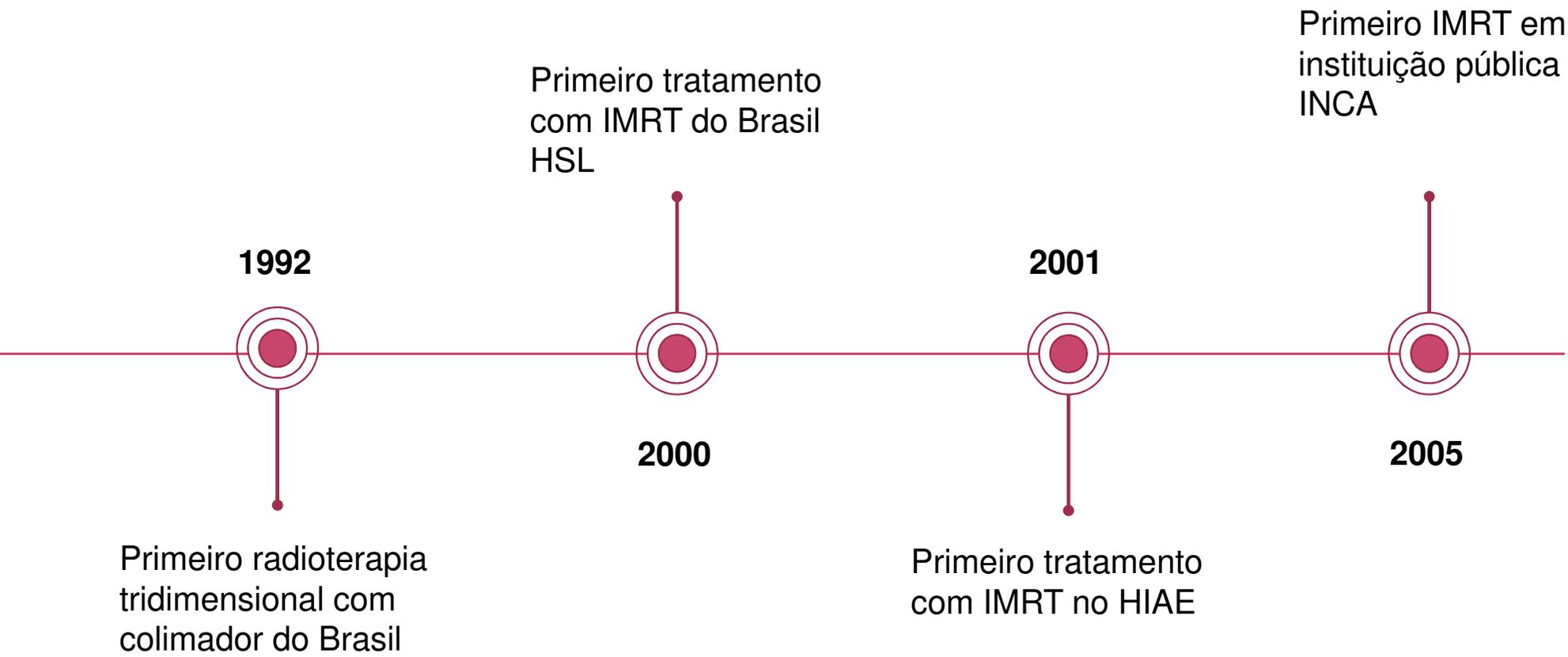
BENEFÍCIOS
DO IMRT EM
CABEÇA E
PESCOÇO

DR. ERICK RAUBER
RADIO-ONCOLOGISTA



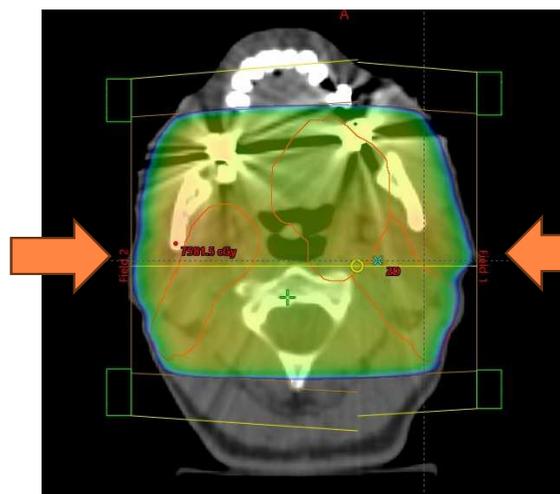
HISTÓRICO



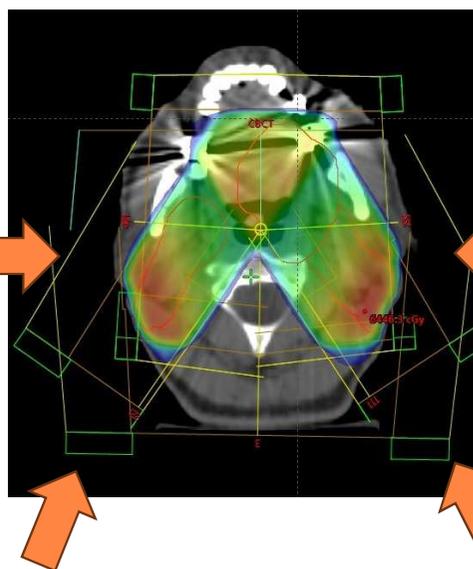


TÉCNICA

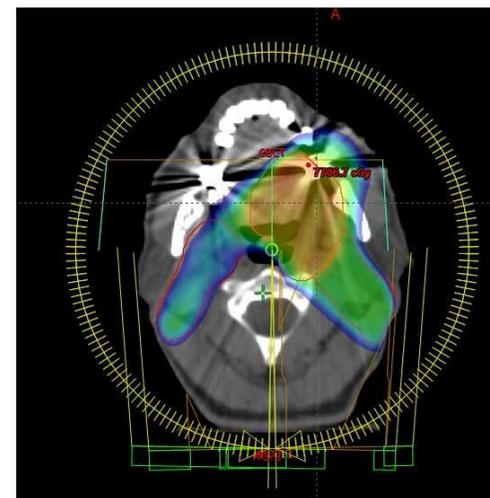
2D

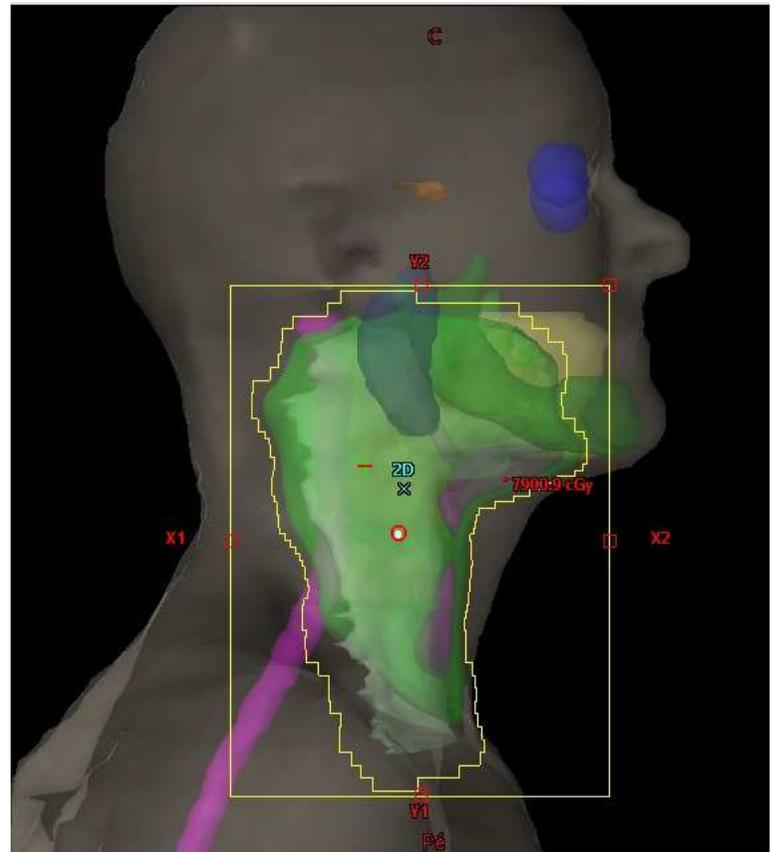


3D



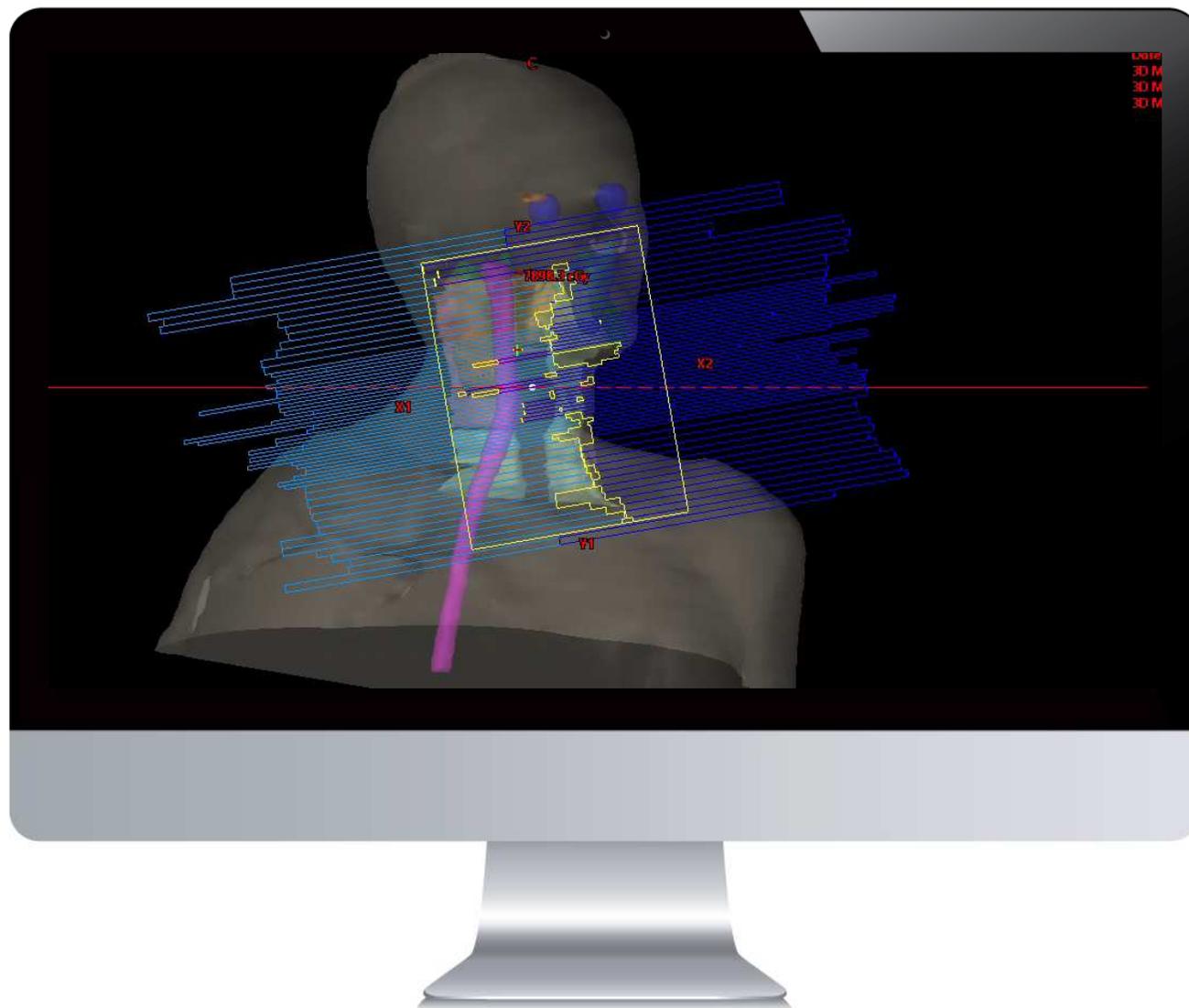
IMRT





VENCER O CÂNCER





VENCER O CÂNCER



IMRT

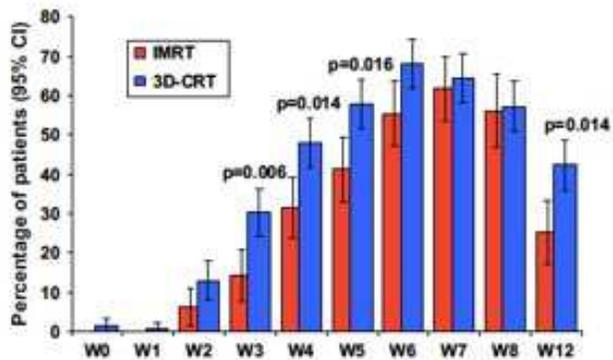
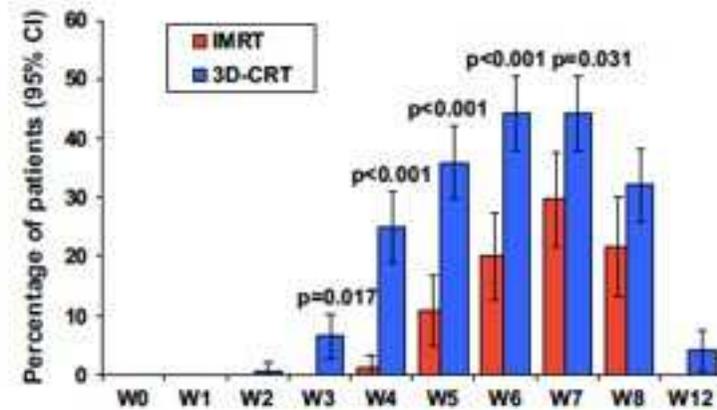
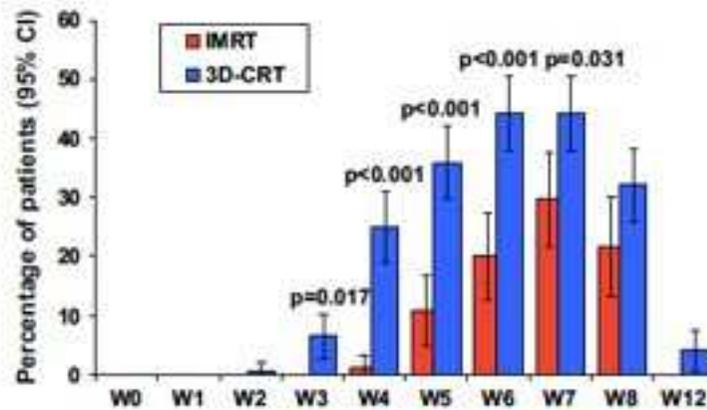


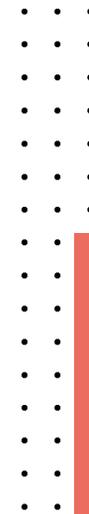
Fig. 2. Acute xerostomia Grade 2 according to Radiation Therapy Oncology Group Acute Radiation Morbidity Scoring System.



CARIE DE RADIAÇÃO



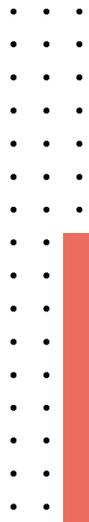
VENCER O CÂNCER



MUCOSITE



VENCER O CÂNCER

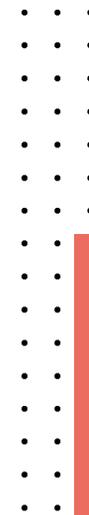


OSTEORADIONECCROSE

Published in final edited form as:

Oral Oncol. 2017 January ; 64: 44–51. doi:10.1016/j.oraloncology.2016.11.015.

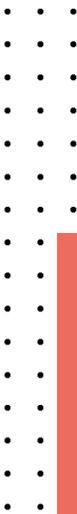
**The Prevalence and Risk factors associated with
Osteoradionecrosis of the Jaw in Oral and Oropharyngeal
Cancer Patients treated with Intensity-Modulated Radiation
Therapy (IMRT): The Memorial Sloan Kettering Cancer Center
Experience**



OSTEORADIONECCROSE



VENCER O CÂNCER



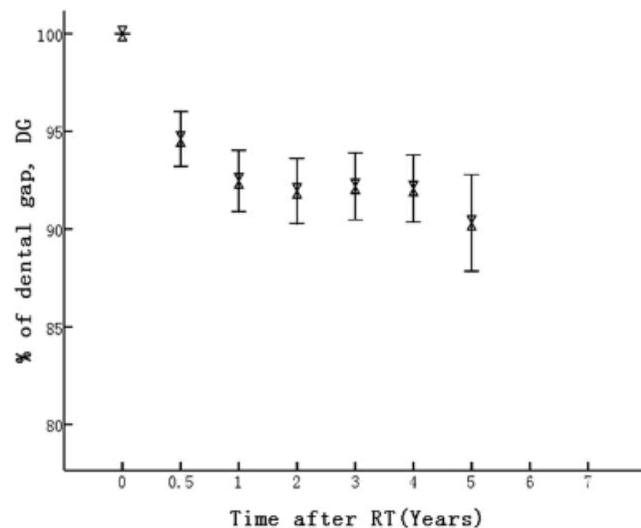
TRISMO

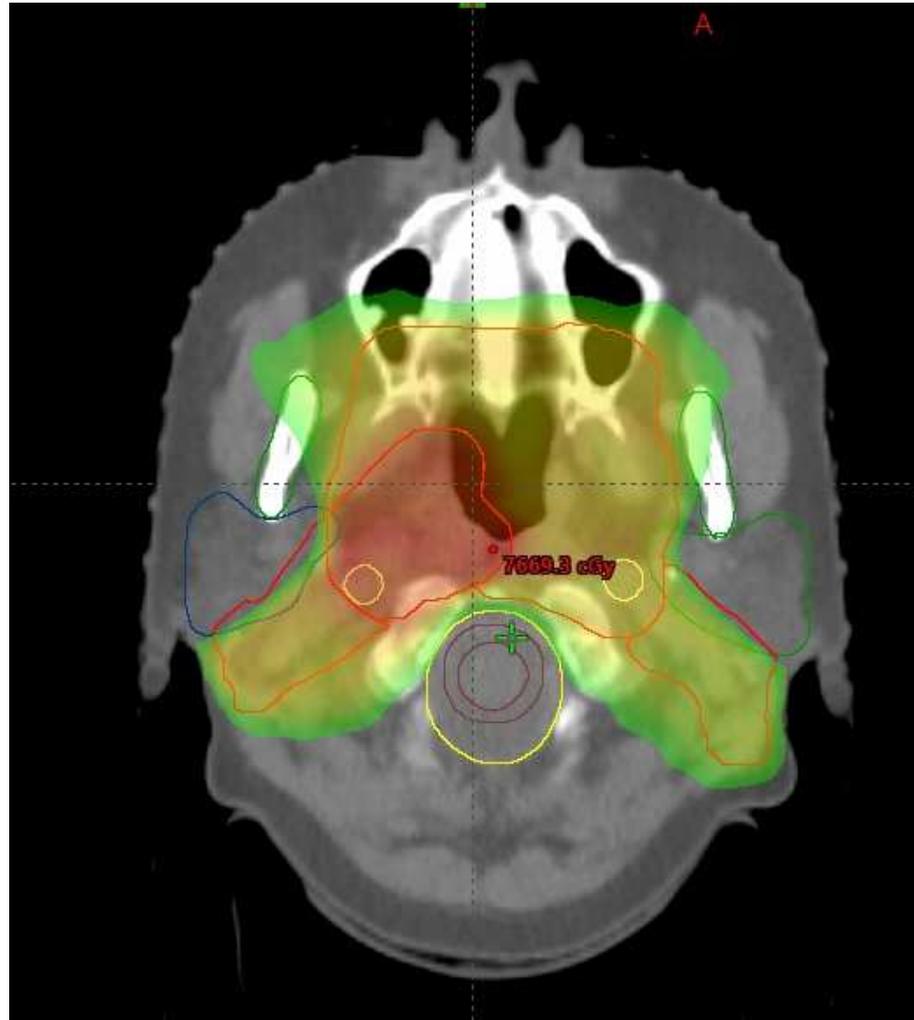
Original Article

Intensity-Modulated Radiation Therapy Reduces Radiation-Induced Trismus in Patients With Nasopharyngeal Carcinoma

A Prospective Study With >5 Years of Follow-Up

Yuan-Yuan Chen, MD¹; Chong Zhao, MD¹; Jin Wang, MD¹; Hong-Lian Ma, MD¹; Shu-Zheng Lai, MD¹; Yuan Liu, MD²; Fei Han, MD¹; Li-Xia Lu, MD¹; Yong Bao, MD¹; and Ming Chen, MD¹

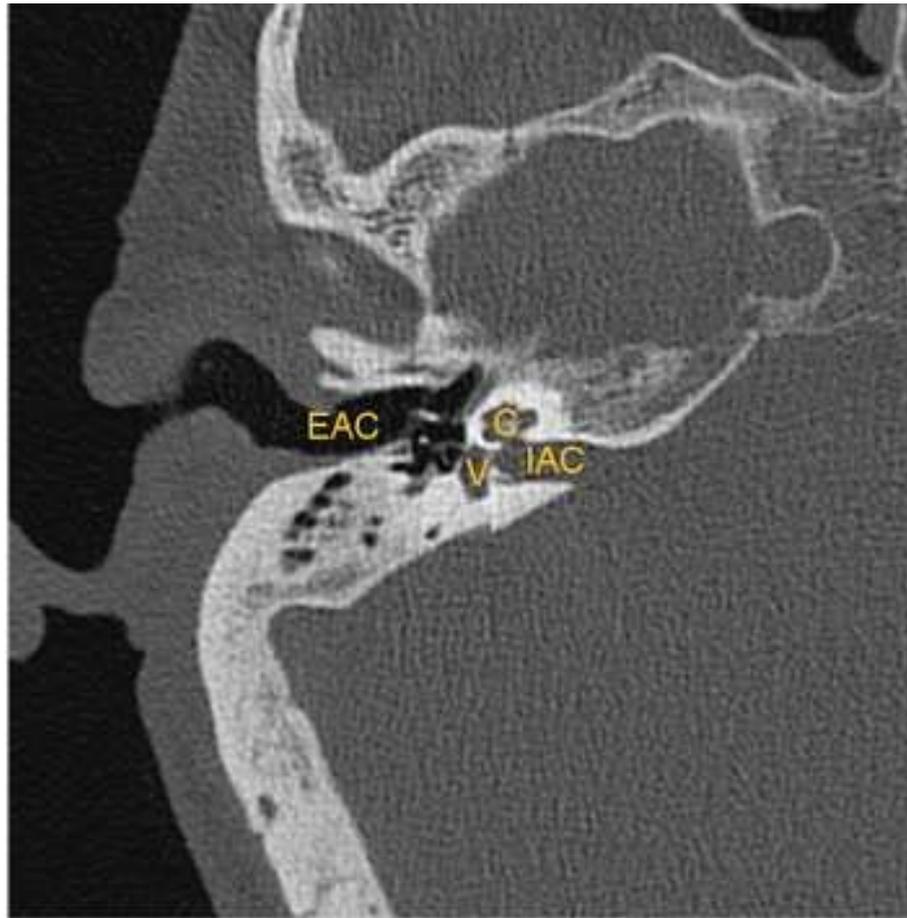




VENCER O CÂNCER



PERDA AUDITIVA



VENCER O CÂNCER



IMRT



Boca seca (xerostomia)



Dificuldade de abrir a boca (Trismo)



Osteoradionecrose



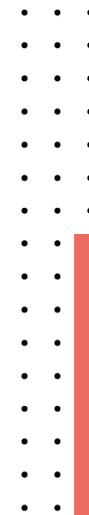
Cárie de radiação



Uso de sonda para se alimentar



Perda auditiva



SUICIDIO

Original Article

Suicide Risk Among Cancer Survivors: Head and Neck Versus Other Cancers

Nosayaba Osazuwa-Peters, BDS, PhD, MPH, CHES^{1,2,3}; Matthew C. Simpson, MPH¹; Longwen Zhao, MS³; Eric Adjei Boakye, MA, PhD(c)⁴; Stephanie I. Olomukoro, MD, MPH⁵; Teresa Deshields, PhD, ABPP⁶; Travis M. Loux, PhD³; Mark A. Varvares, MD, FACS⁷; and Mario Schoutman, PhD³

TABLE 1. Demographics, Clinical Characteristics of the Study Population, and Mortality Rates by Cancer Type, 2000-2014 (n = 4,219,097)

Characteristic	No. (%)		Suicide Mortality Rate per 100,000 Person-Years	P
	Cancer Survivors, n = 4,219,097	Frequency of Suicide, n = 4493		
Cancer site				< .01
Pancreas	119,108 (2.8)	93 (2.1)	86.4	
Head and neck	151,167 (3.6)	404 (9.0)	63.4	
Lung and bronchus	372,239 (8.8)	333 (7.4)	59.3	
Stomach	76,225 (1.8)	81 (1.8)	48.9	
Liver	80,779 (1.9)	47 (1.1)	41.1	
Urinary bladder	184,884 (4.4)	315 (7.0)	35.5	
Brain and other nervous system	60,265 (1.4)	42 (0.9)	29.8	
Testis	30,709 (0.7)	55 (1.2)	27.2	
Prostate	736,360 (17.5)	1229 (27.4)	26.6	
Colon and rectum	453,390 (10.8)	495 (11.0)	25.0	



VENCER O CÂNCER



Gráfico 8.2 - Distribuição das tecnologias de tratamento por tipo de instituição

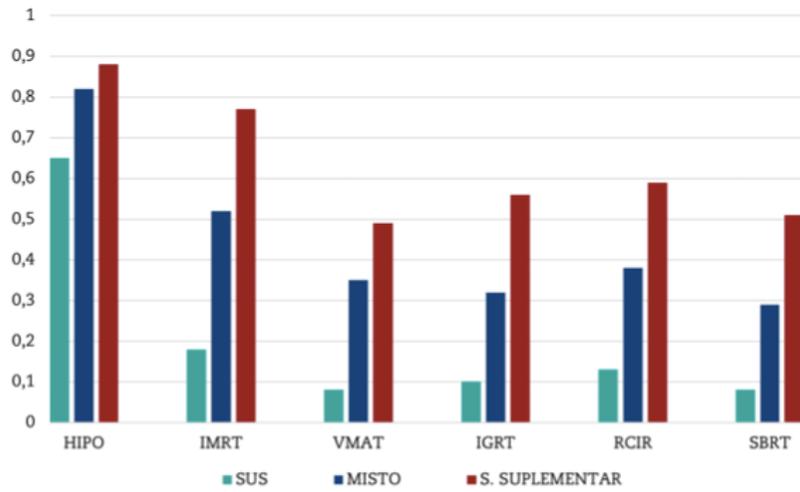


Gráfico 8.3 - Distribuição das tecnologias de tratamento por regiões

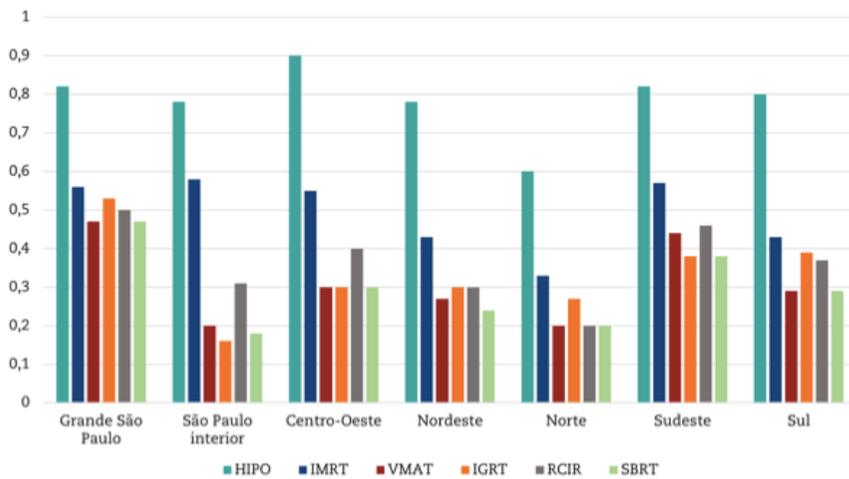
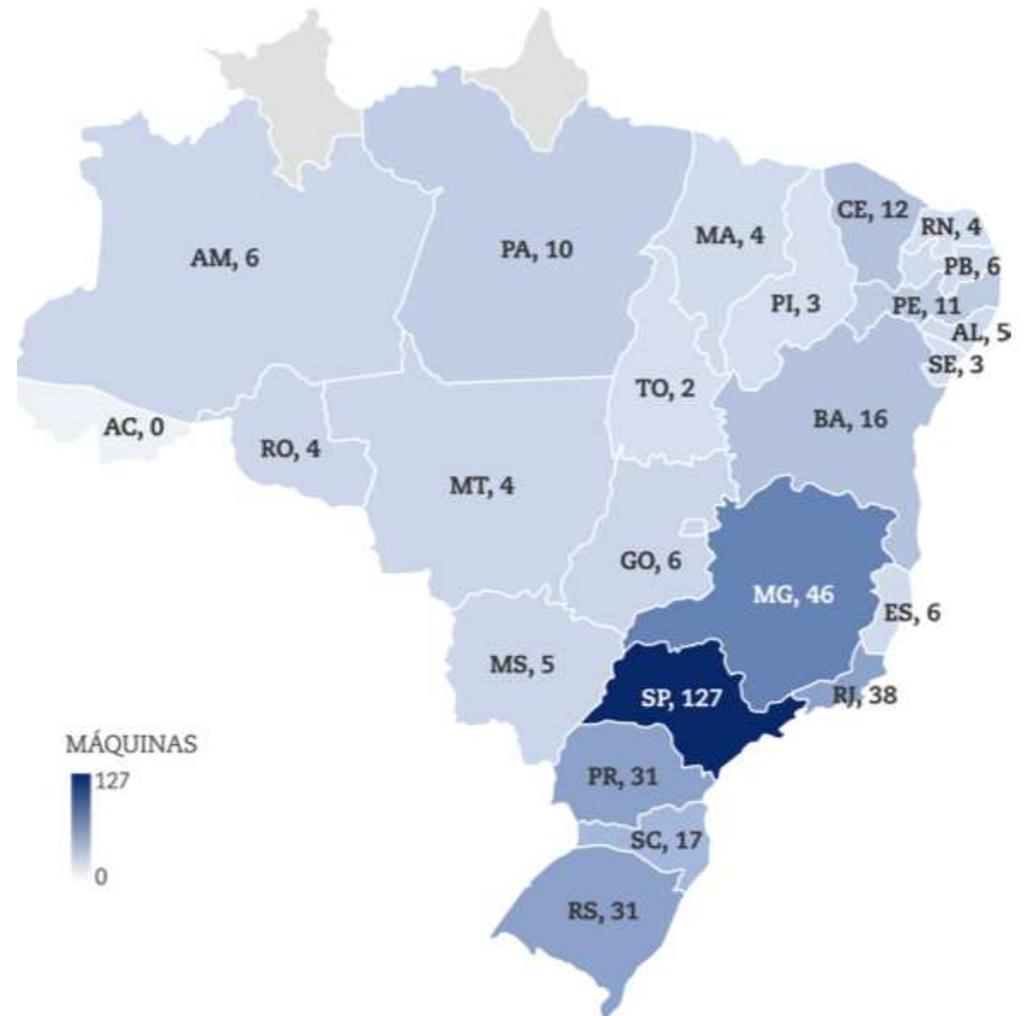


Figura 8.1 - Distribuição dos equipamentos de teleterapia por estado



IMRT - DISTRIBUIÇÃO

Tabela 8.23 – Utilização da IMRT por região

IMRT por serviço e região	CO	NE	N	SE	GSP	SPi	SUL	Brasil
Serviços	20	37	15	61	34	45	51	263
Realizaram a técnica	11	16	5	35	19	26	22	134
% de serviços	55%	43%	33%	57%	56%	58%	43%	51%

Tabela 8.24 – Utilização da IMRT por fonte pagadora

IMRT	SUS	Misto	S. Suplementar	Brasil
Serviços	66	123	74	263
Relizaram a técnica	14	63	57	134
% de serviços	21%	51%	77%	51%

Tabela 7.7 - Serviços operacionais e não operacionais na radioterapia

Serviço	Norma/Boa Prática	Unidade de Medida	Valor
Manutenção de Aparelhos	Norma	Unidade	R\$ 126.933,33
Manutenção de Equipamentos	Norma	Unidade	R\$ 18.398,61
Calibração de Equipamentos	Norma	Unidade	R\$ 370,00
Manutenção de Climatização	Norma	Unidade	R\$ 2.000,00
Auditoria Externa INCA	Norma	Unidade	R\$ 208,33
Controle da Água e Ar	Norma	Unidade	R\$ 300,00
Manutenções Overhead	Boas Práticas	Pacote	R\$ 9,17
Gastos com Auditoria Externa (Certificação)	Boas Práticas	Unidade	R\$ 250,00
Gastos com Auditoria Interna (Certificação)	Boas Práticas	Unidade	R\$ 291,67
Serviços Contábeis	Norma	Unidade	R\$ 1.000,00
Serviços Advocatícios	Boas Práticas	Unidade	R\$ 4.104,00
Serviços de Plano de Saúde	Norma	Unidade	R\$ 6.480,00
Serviços Segurança e Med. Trabalho	Norma	Unidade	R\$ 540,00
Serviços Ar Condicionado Overhead	Boas Práticas	Pacote	R\$ 2.000,00
Serviços de TI Telecom	Boas Práticas	Unidade	R\$ 3.500,00
Serviços de Conservação e Limpeza	Norma	M2	R\$ 7.143,79
Taxas Pacote	Norma	Pacote	R\$ 885,90
Manutenção Predial	Boas Práticas	Pacote	R\$ 12.367,76
TOTAL			R\$ 186.782,56

Tabela 2.3 - Repasses do SUS para os tratamentos radioterápicos

Ano	Valor Total Radioterapia	Quantidade de Planejamentos	Pacientes Tratados após Mudança da Tabela (Pacote)	Total Pacientes Tratados	Valor Médio por Tratamento
2019	R\$ 550.184.856	43.409	79.339	112.748	R\$ 4.482,23
2015	R\$ 407.503.434	112.250	0	112.250	R\$ 3.630,32
2010	R\$ 223.360.646	97.160	0	97.160	R\$ 2.298,90

Fonte: Ministério da Saúde. Datasus (s.d.).

Tabela 7.10 - Gastos diretos e indiretos por acelerador linear

Procedimento	Gastos Diretos (2,3%)		Gastos Indiretos (97,7%)		Gastos Totais (100%)	
	Valor	%	Valor	%	Valor	%
3D	R\$ 2.173	14,0%	R\$ 268.114	44,4%	R\$ 270.287	43,6%
IMRT	R\$10.505	67,6%	R\$ 268.114	44,4%	R\$ 278.619	45,0%
RDC	R\$ 2.866	18,4%	R\$ 11.718	1,9%	R\$14.584	2,4%
IGRT	R\$ -	0,0%	R\$ 55.857	9,3%	R\$55.857	9,0%
TOTAL	R\$15.544	100,0%	R\$ 603.803	100,0%	R\$ 619.347	100,0%

Custo mensal = R\$ 619.347,00

60 pacientes / mês

= R\$ 10.000,00

CUSTO-EFETIVIDADE

ORIGINAL ARTICLE

Intensity-modulated radiation therapy (IMRT) versus 3-dimensional conformal radiation therapy (3D-CRT) for head and neck cancer: cost-effectiveness analysis

 Gustavo Nader Marta, MD, PhD¹
Eduardo Weltman, MD, PhD²
Robson Ferrigno, MD, PhD³

1. Department of Radiation Oncology; Hospital Sirio-Libanês and Instituto do Câncer de Estado de São Paulo (ICESP) - Faculdade de Medicina da Universidade de São Paulo (FMUSP); São Paulo, Brasil.
2. Department of Radiation Oncology; Hospital Israelita Albert Einstein, São Paulo, Brasil; Faculdade de Medicina da Universidade de São Paulo (FMUSP) Discipline of Radiation Oncology, São Paulo, Brasil.
3. Department of Radiation Oncology; Hospital Beneficência Portuguesa, São Paulo, Brasil.

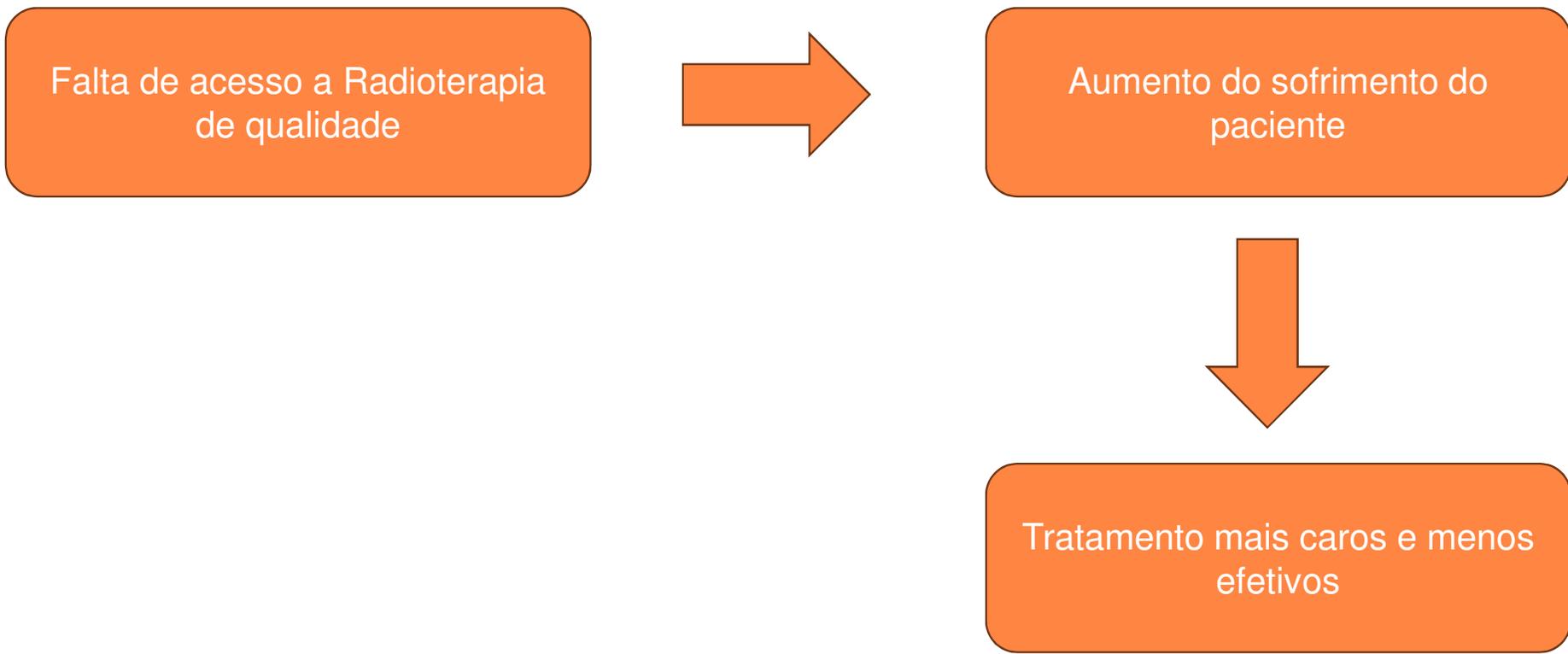
TABLE 1. COST-EFFECTIVENESS ANALYSES – MARKOV MODEL

	2 years			Lifetime (15 years)		
	IMRT	3D - CRT	Incremental	IMRT	3D - CRT	Incremental
Cost per person (R\$)	10,000	4,950	5,050	10,000	4,950	5,050
QALYs per person	2.03	1.87	0.16	7.53	6.37	1.16
ICER (R\$)	31,579			4,341		

Note: IMRT = intensity modulated radiation therapy; 3D-CRT = conformal radiation therapy; ICER = incremental cost-effectiveness ratio; QALY = quality-adjusted life; R\$ = real.



ESTRATÉGIA

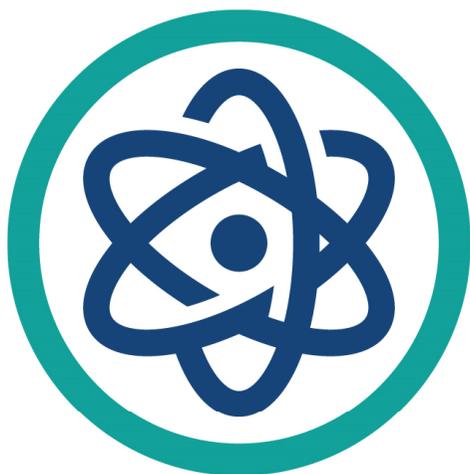


CONCLUSÕES

IMRT previne diversos efeitos colaterais graves e permanentes

Implantação do IMRT no SUS para tumores de CP é custo efetivo





SBRT

SOCIEDADE
BRASILEIRA DE
RADIOTERAPIA

O B R I G A D O