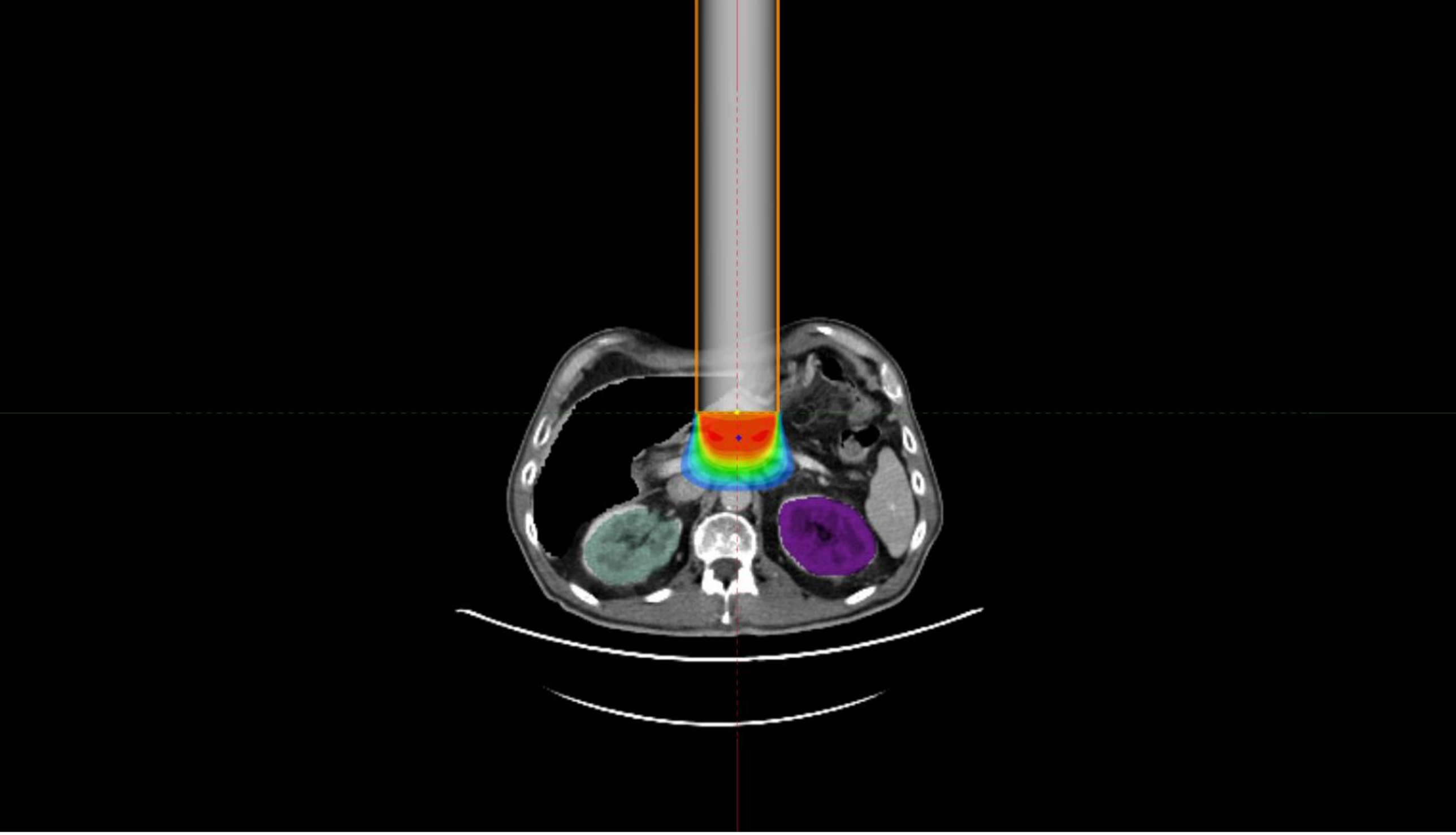
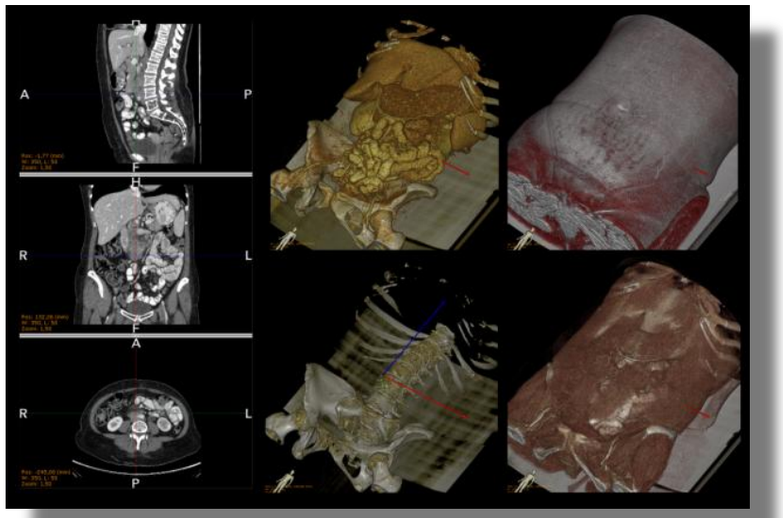


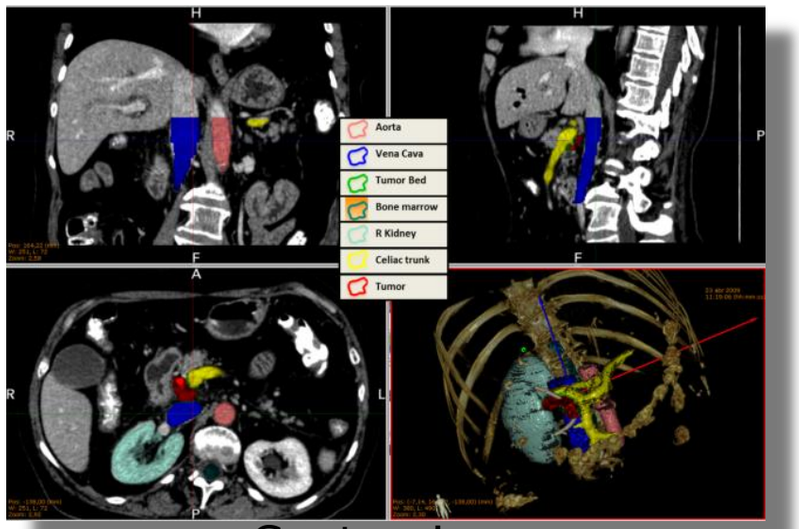
CONCORDANCE BETWEEN PRE AND POST PROCEDURE PARAMETERS USING A VIRTUAL PLANNING SYSTEM IN CLINICAL PRACTICE:
THE USE OF RADIANCE.

F.A. Calvo, E. Alvarado-Vásquez , M. Gómez-Espí, A. Alvarez, J. Serrano, J.A. Blanco, C. González, A. Calin, M. Muñoz, J. Araque, B. Salas, V. Garcia, J. Pascau, M.A. Lozano

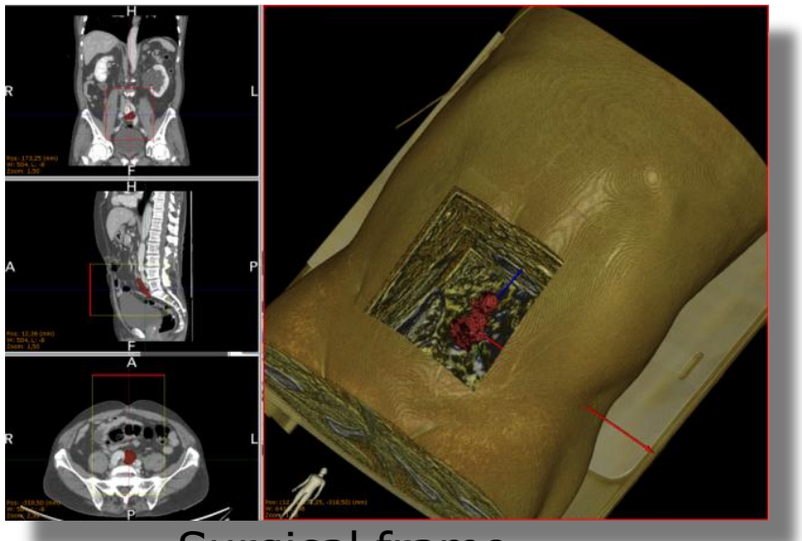
What is radiance?



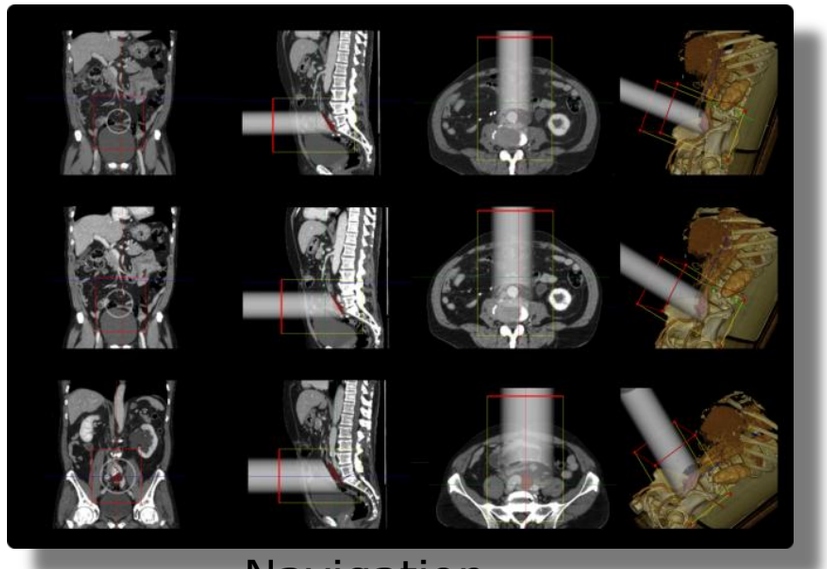
3D



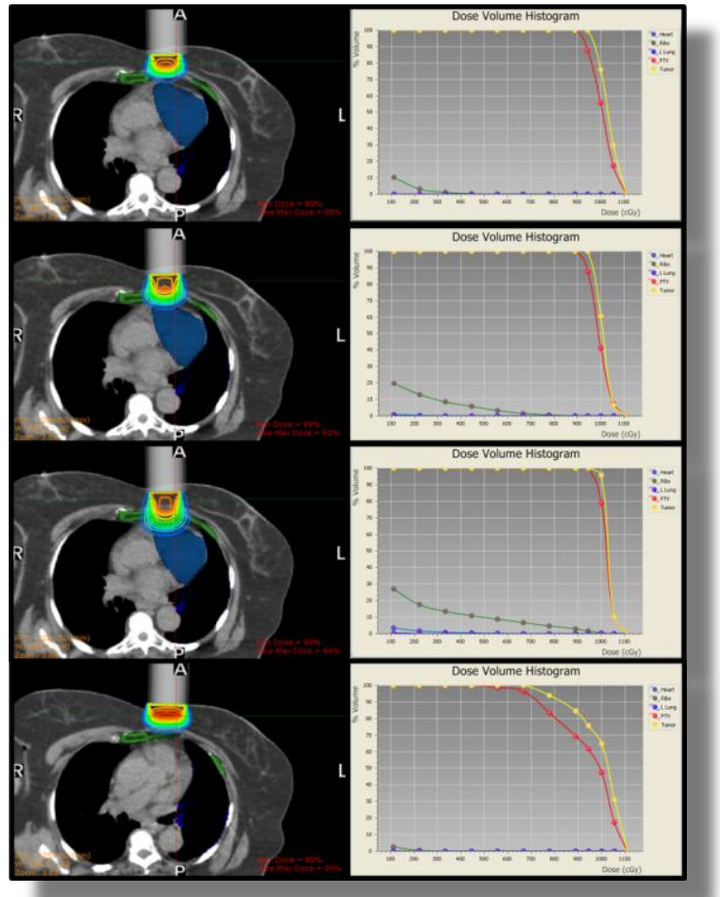
Contouring



Surgical frame



Navigation



HDV 's

Introduction

Since january 2014, our center have been **systematically** performing virtual plans in order to optimize the selection of treatment parameters pre-procedure.

Introduction

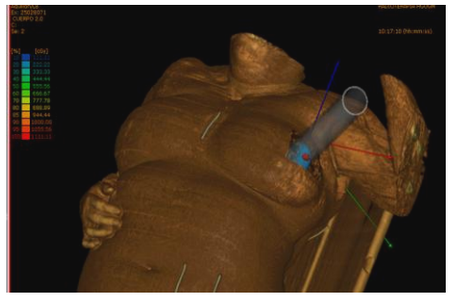
Since january 2014, our center have been **systematically** performing virtual plans in order to optimize the selection of treatment parameters pre-procedure.

We aim to report our early experience and data regarding concordance between pre and post procedure parameters.

Methods

1

2



virtual parameters

3

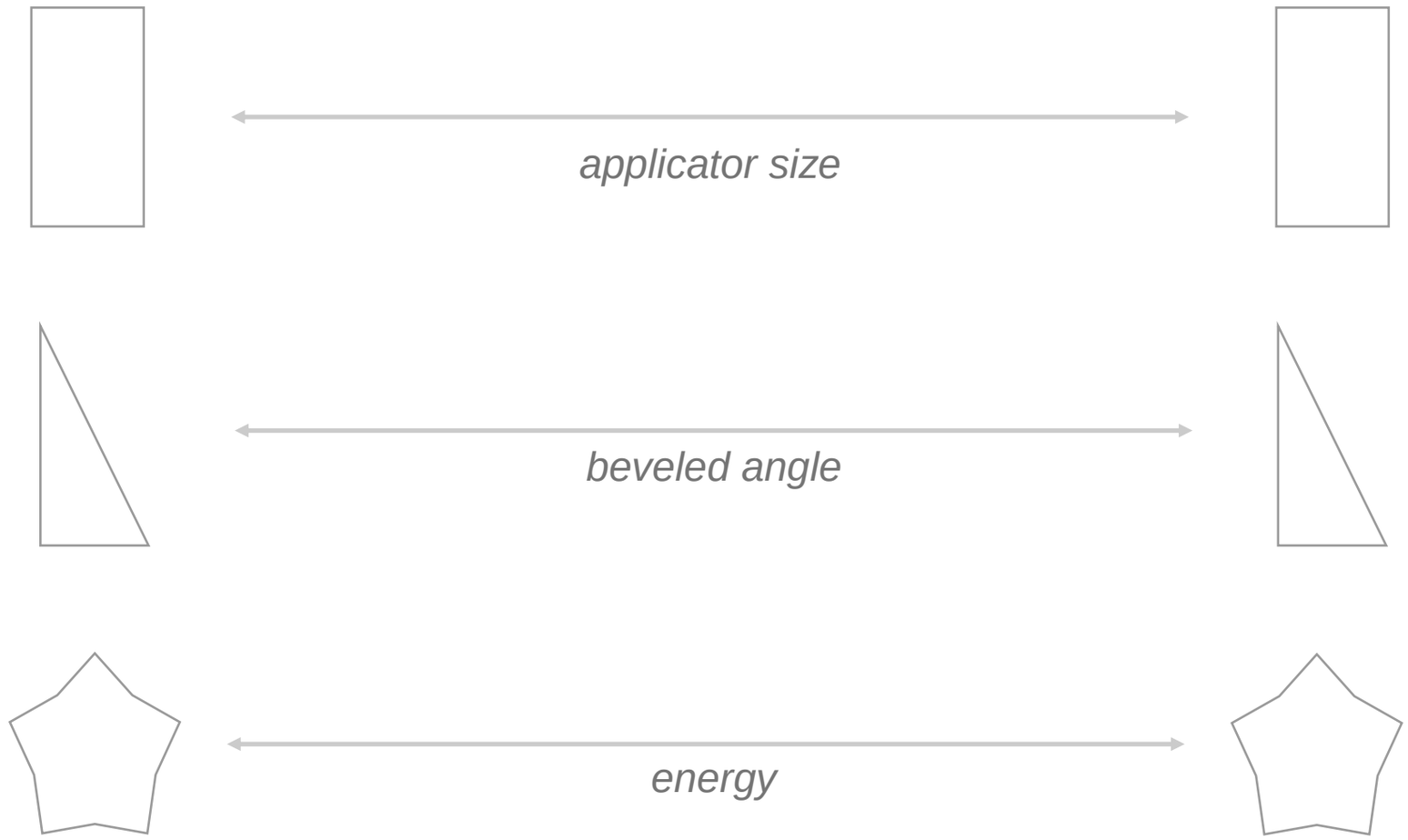
Surgery

treatment parameters

Methods

virtual parameters

real parameters



intra-class correlation coeficient

Methods

The intra-class correlation coefficient was used to analyze concordance between pre and post procedure selection of treatment parameters (applicator size, beveled angle and energy).

Results

72 procedures for 59 patients

56 treatment plans

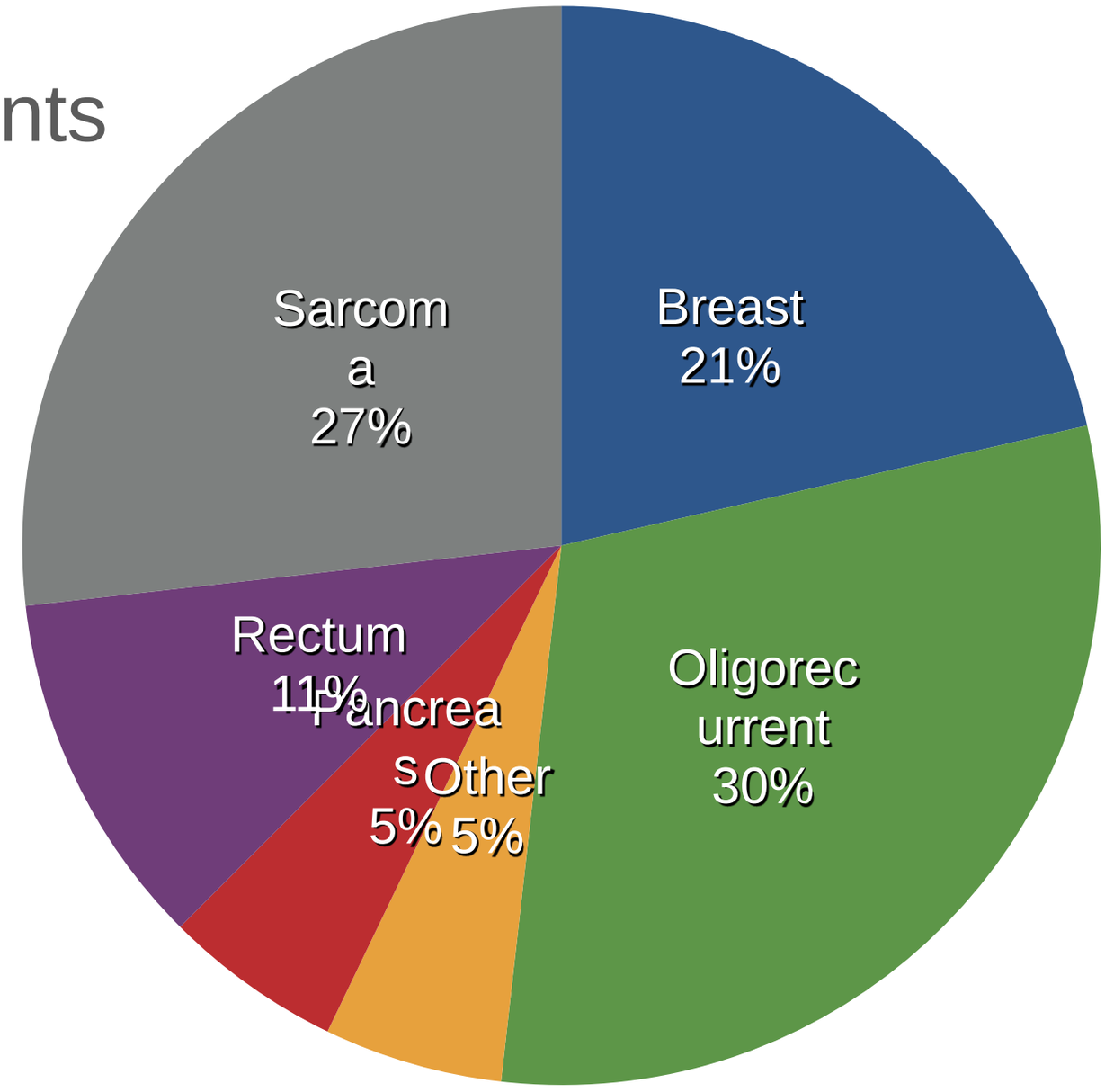
46 patients

Results

72 procedures for 59 patients

56 treatment plans

46 patients



Results

all treatment groups

	Coefficient	95% CI

Results

all treatment groups

	Coefficient	95% CI
Applicator	**0.91**	0.86 - 0.95

Results

all treatment groups

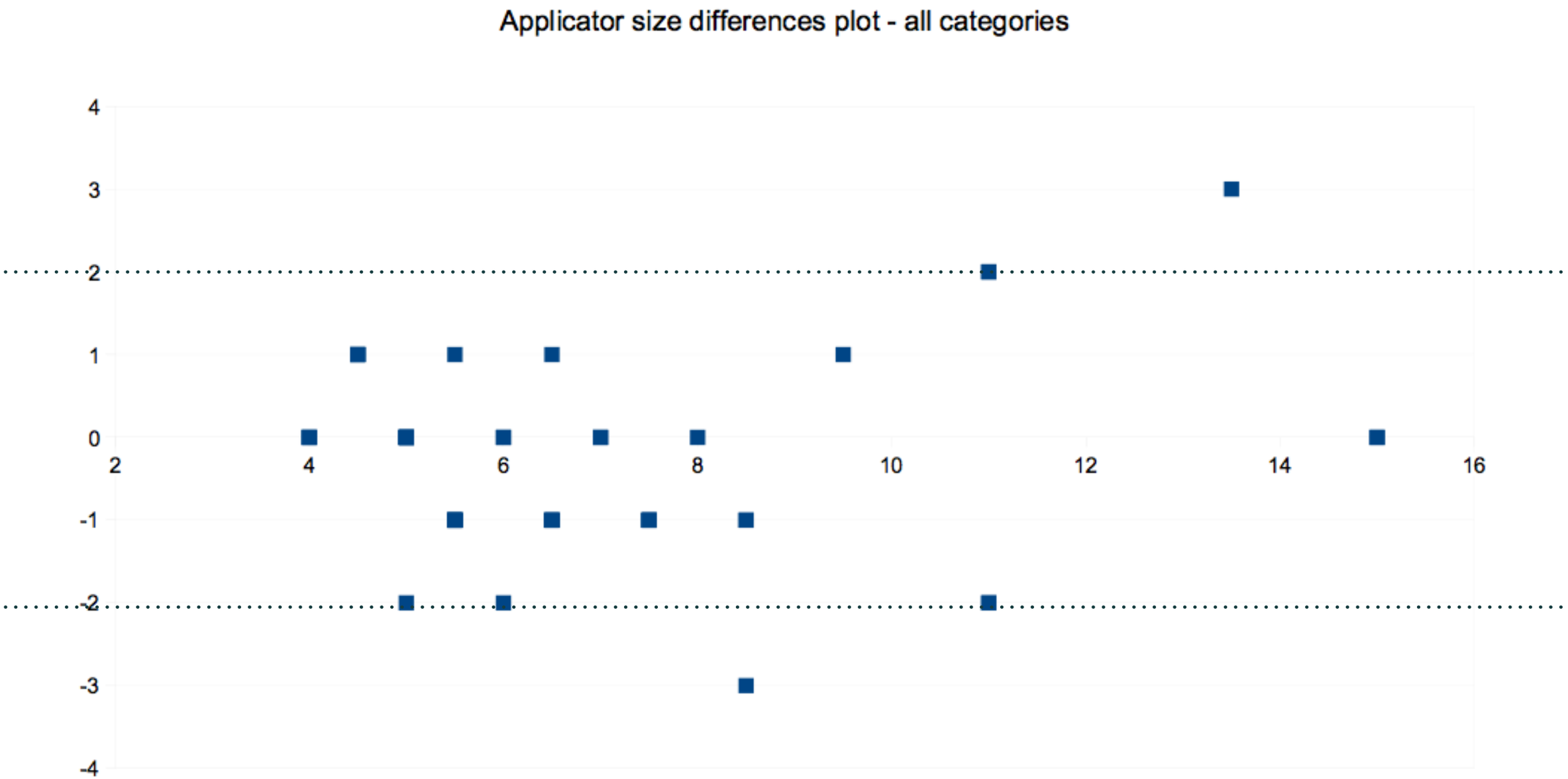
	Coefficient	95% CI
Applicator	**0.91**	0.86 - 0.95
Angle	**0.73**	0.58 - 0.83

Results

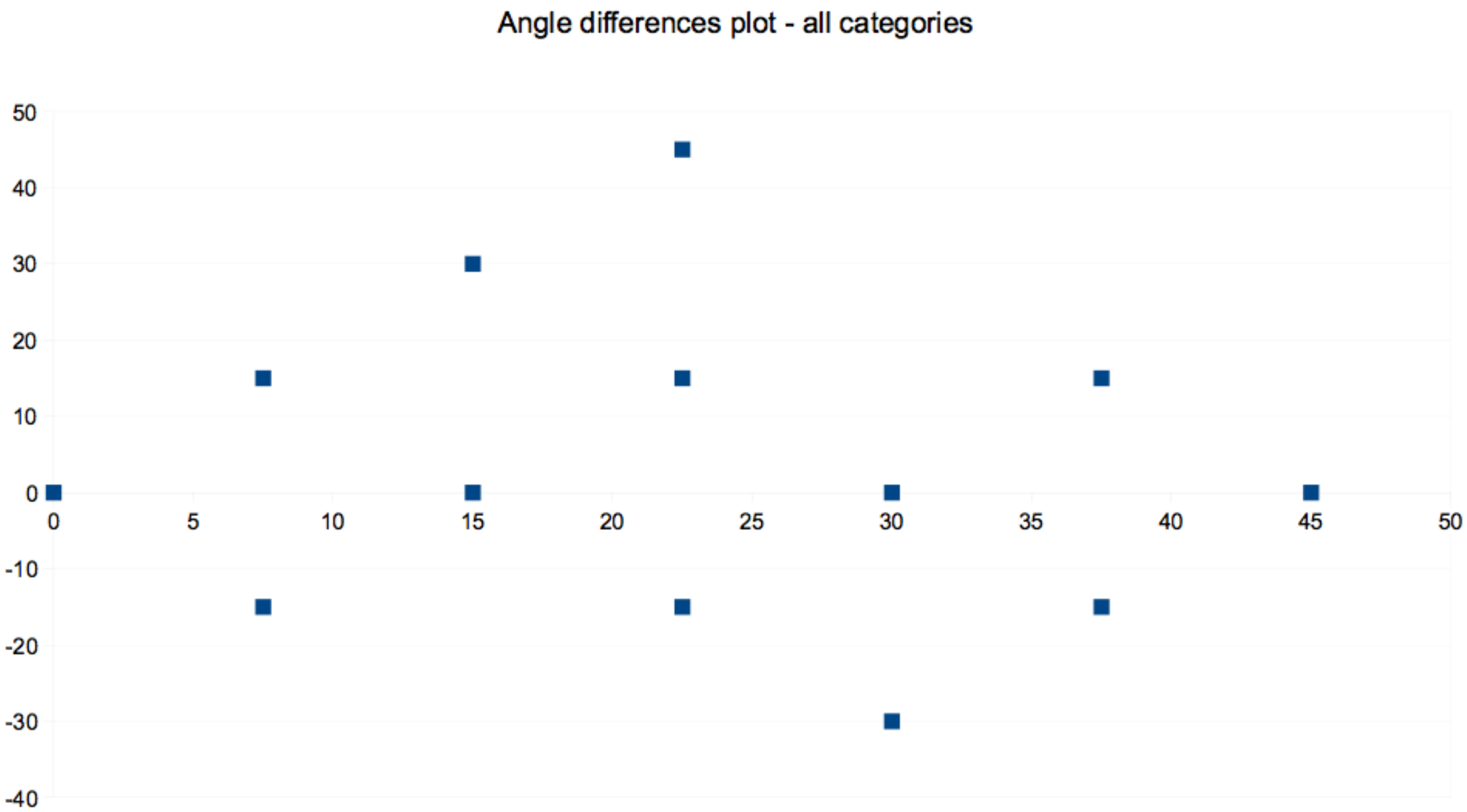
all treatment groups

	Coefficient	95% CI
Applicator	**0.91**	0.86 - 0.95
Angle	**0.73**	0.58 - 0.83
Energy	**0.68**	0.51 - 0.80

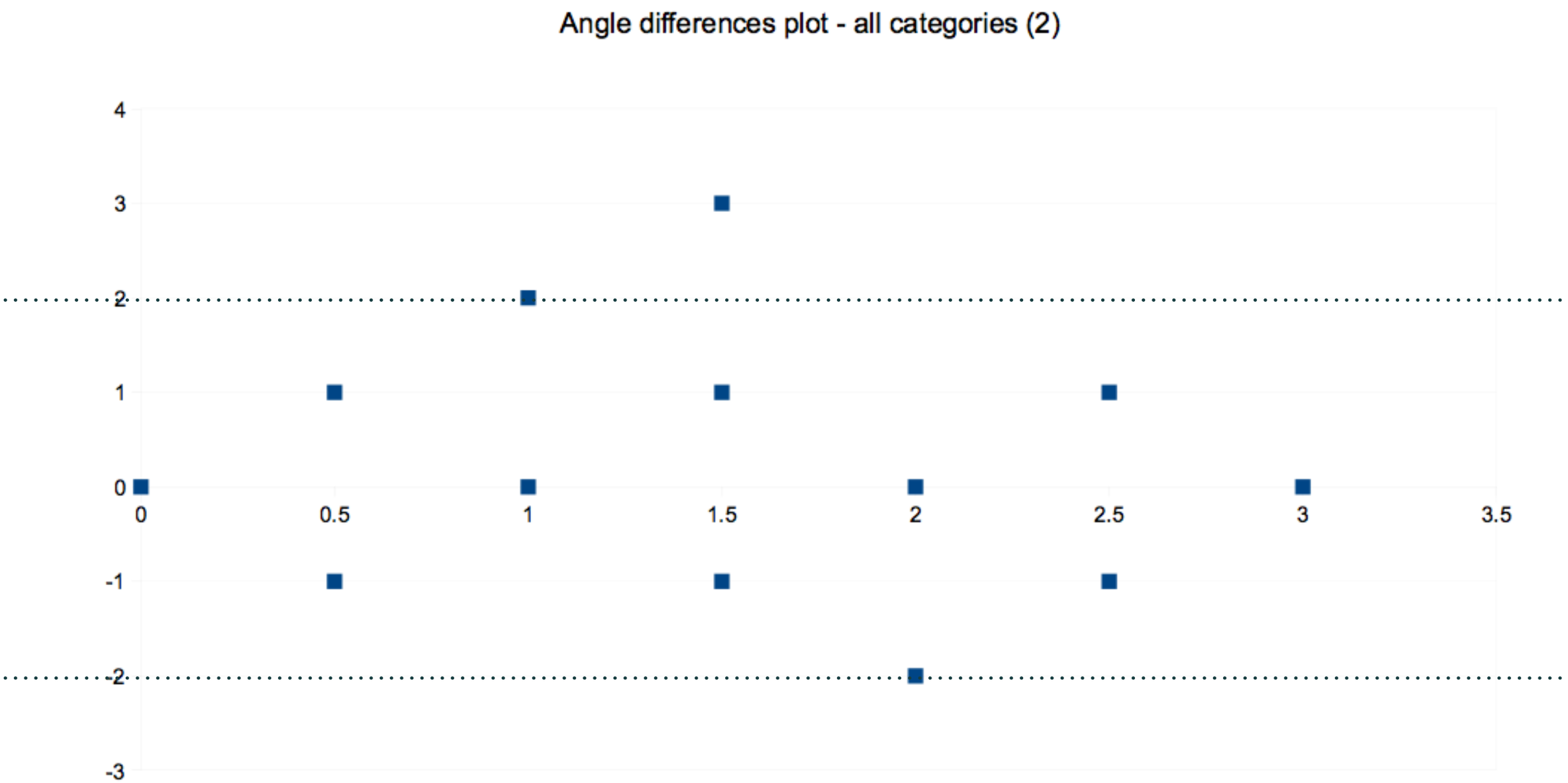
Results


Applicator size differences plot - all categories
4
3
2
1
0
-1
-2
-3
-4
2
4
6
8
10
12
14
16

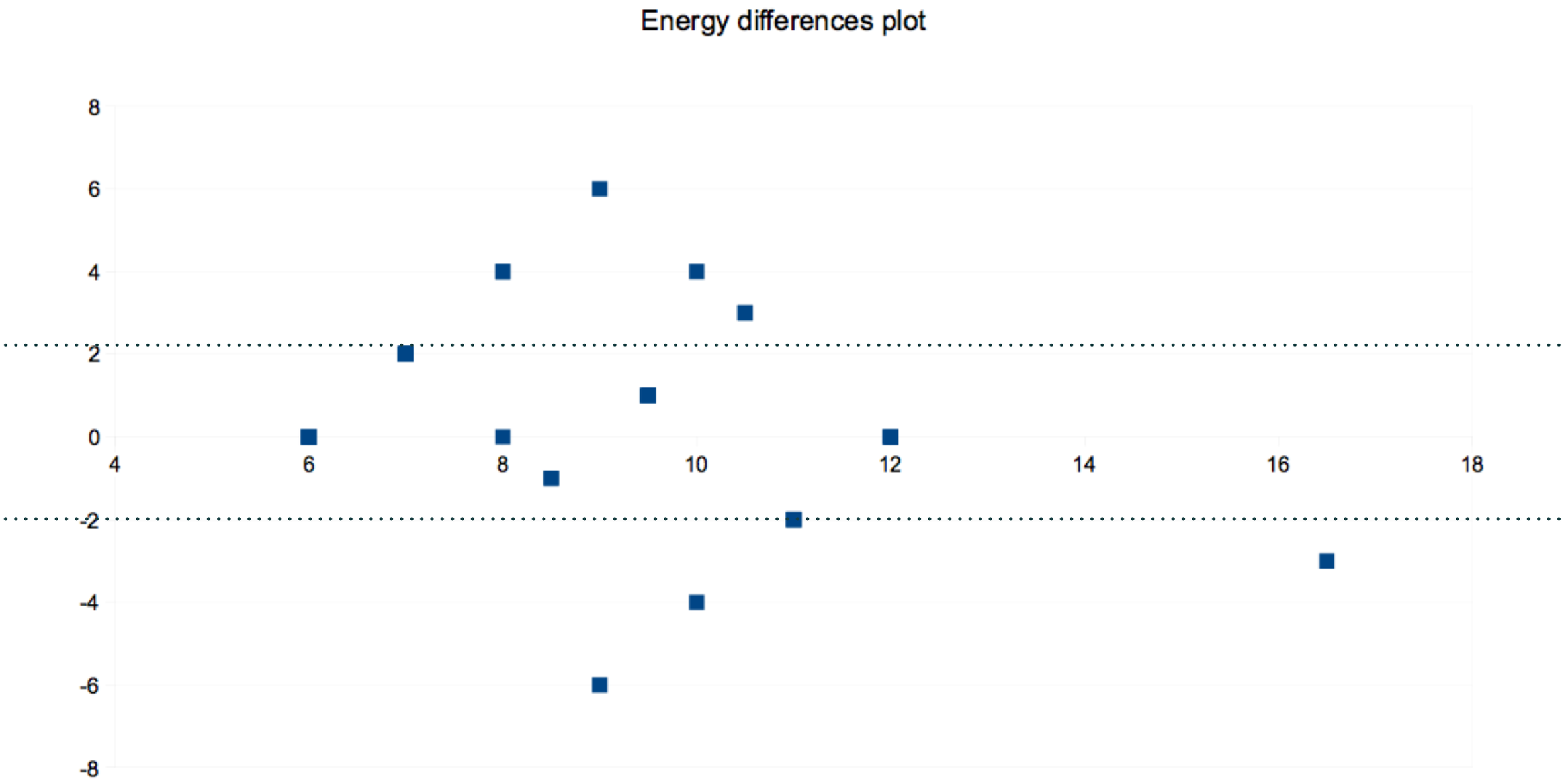
Results


Angle differences plot - all categories
50
40
30
20
10
0
-10
-20
-30
-40
0
5
10
15
20
25
30
35
40
45
50

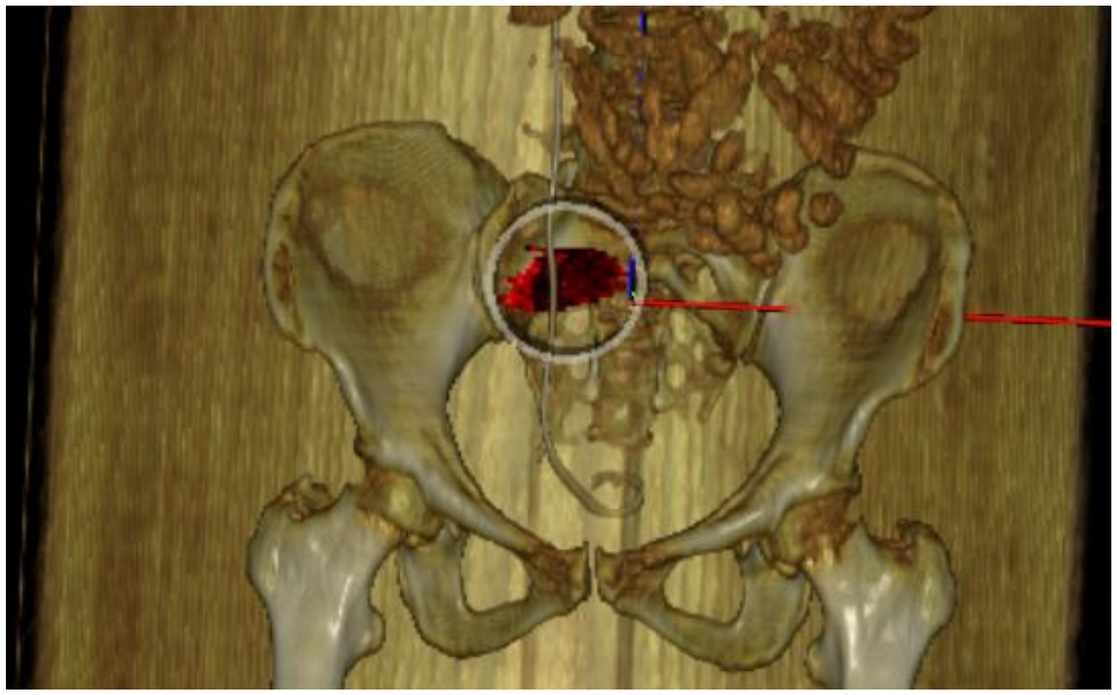
Results

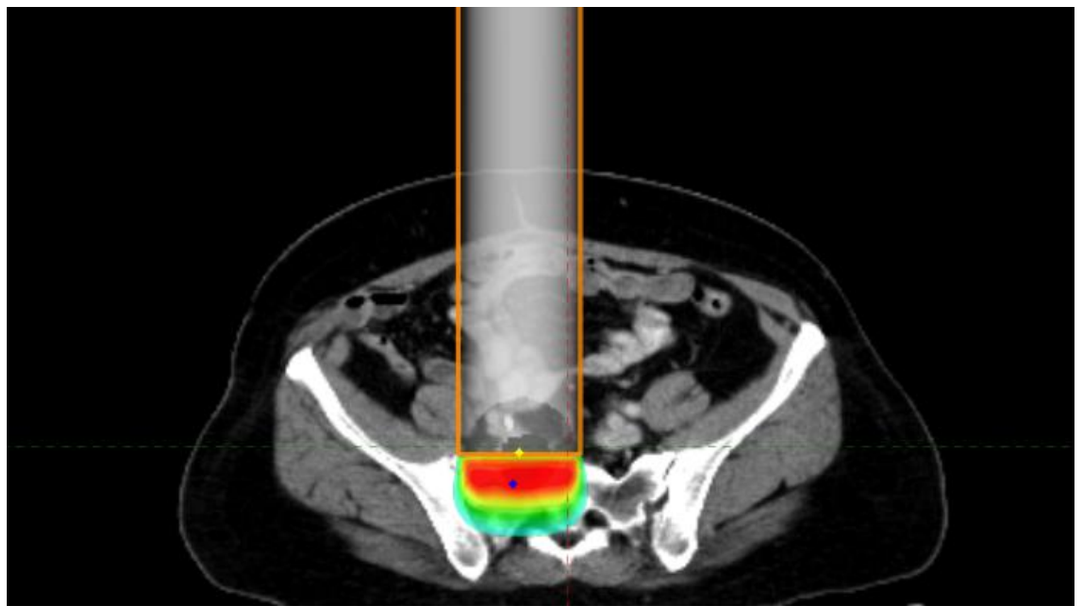

Angle differences plot - all categories (2)
4
3
2
1
0
-1
-2
-3
0
0.5
1
1.5
2
2.5
3
3.5

Results



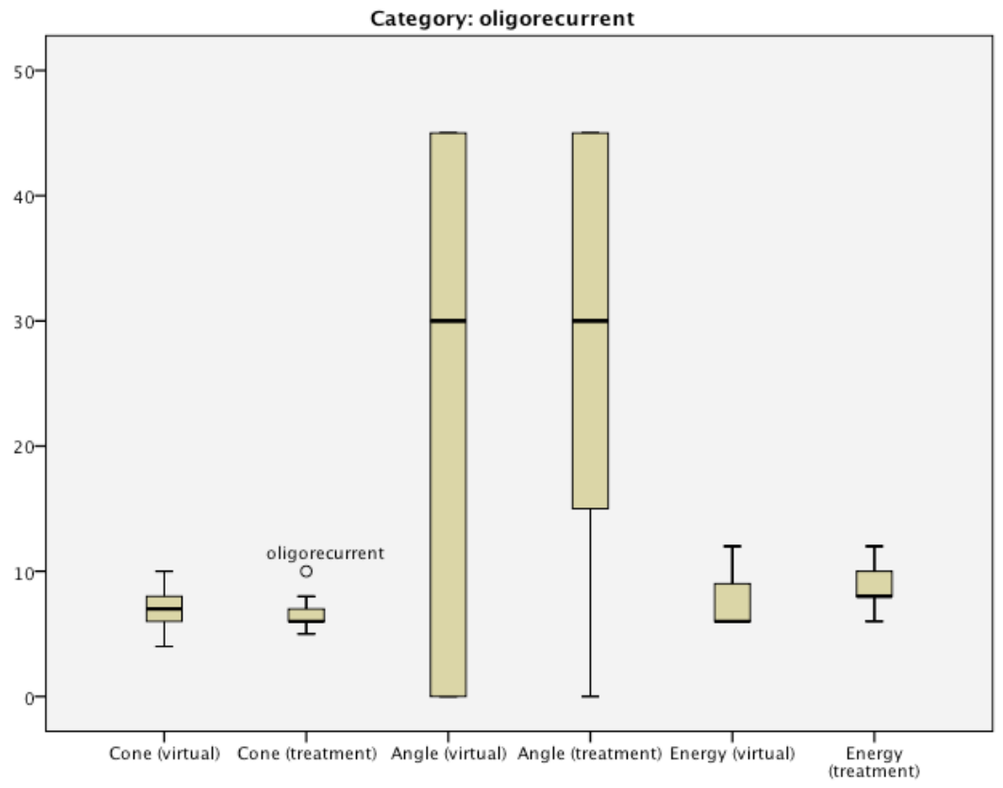
Results



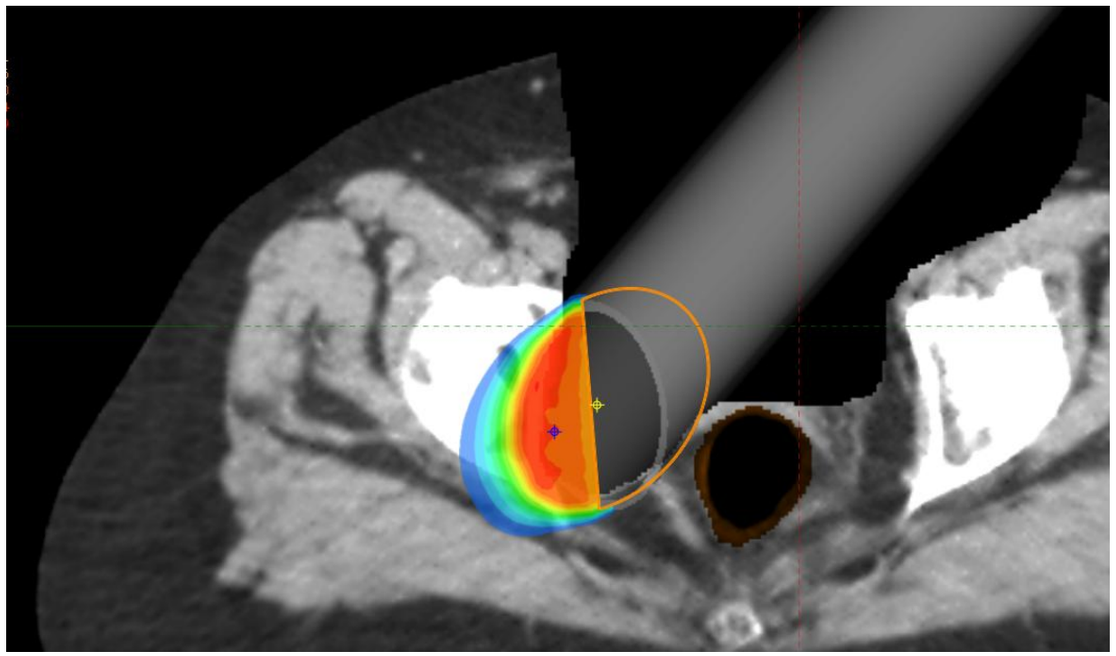


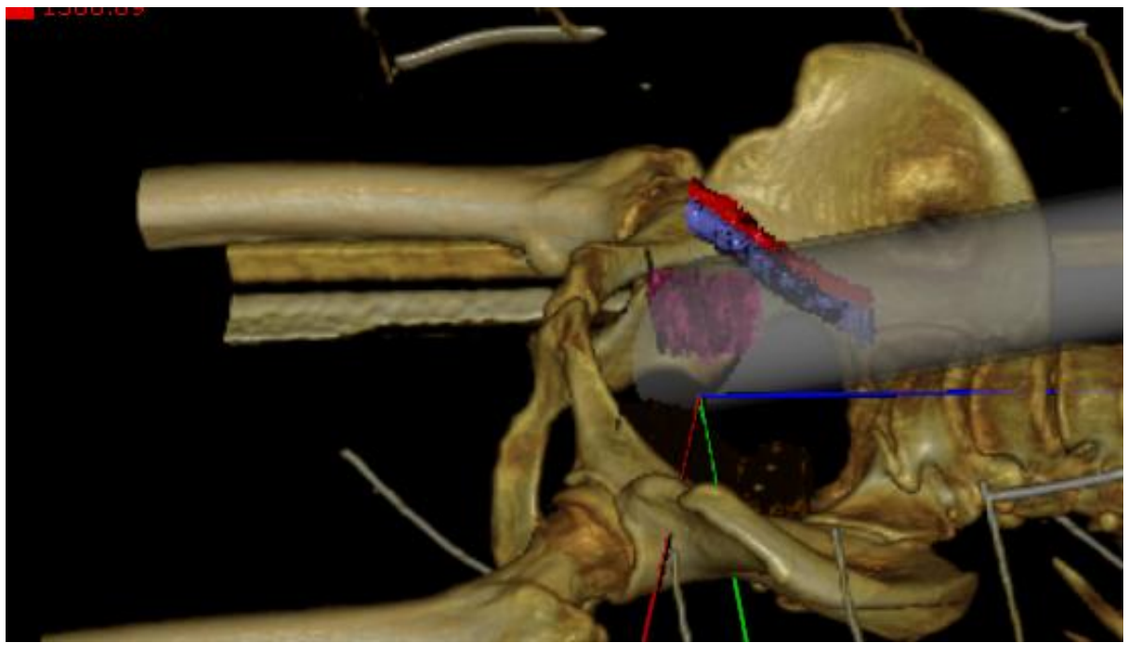
oligorecurrent (n=17)

	Coefficient	95% CI
Applicator	0.74	(0.42 - 0.90)
Angle	0.84	(0.61 - 0.94)
Energy	0.66	(0.18 - 0.90)



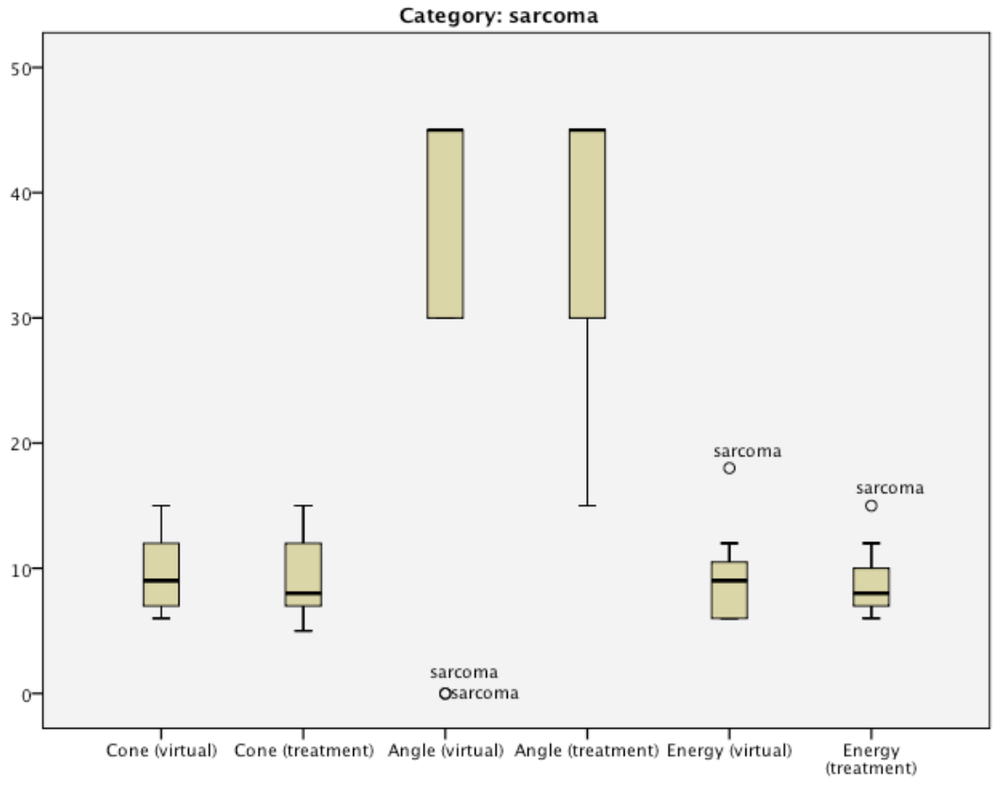
Results





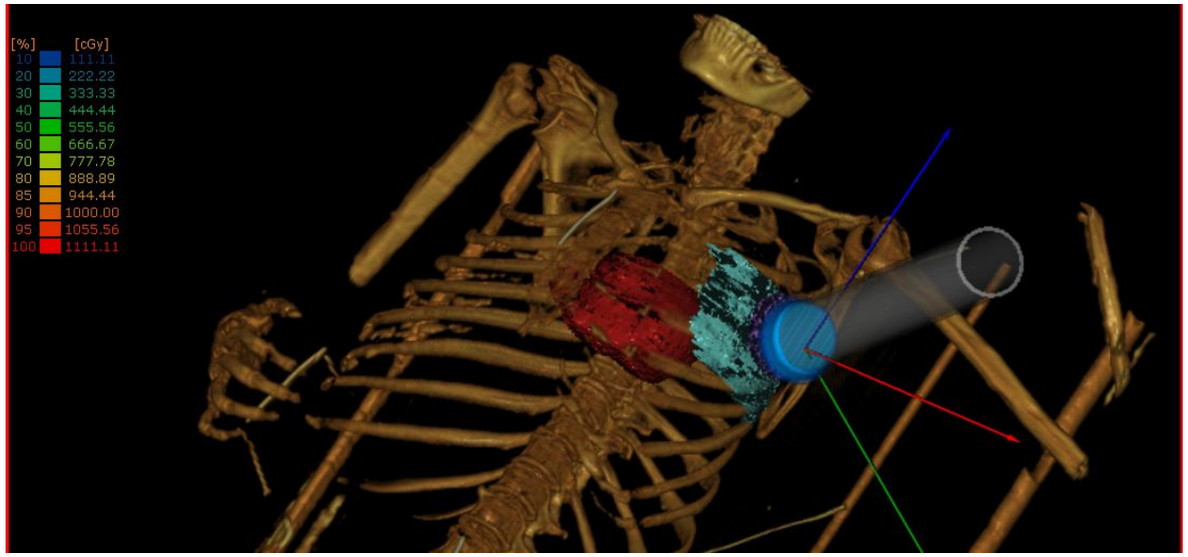
sarcoma (n=15)

	Coefficient	95% CI
Applicator	0.91	(0.75 - 0.97)
Angle	-0.14	(-0.6 - 0.4)
Energy	0.61	(0.16 - 0.85)

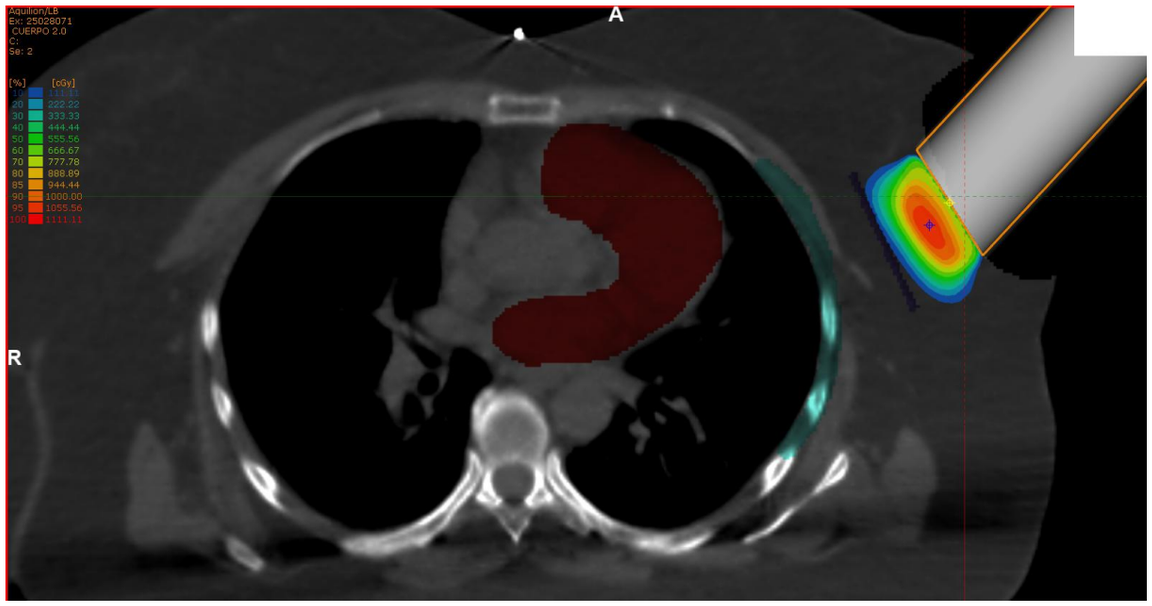


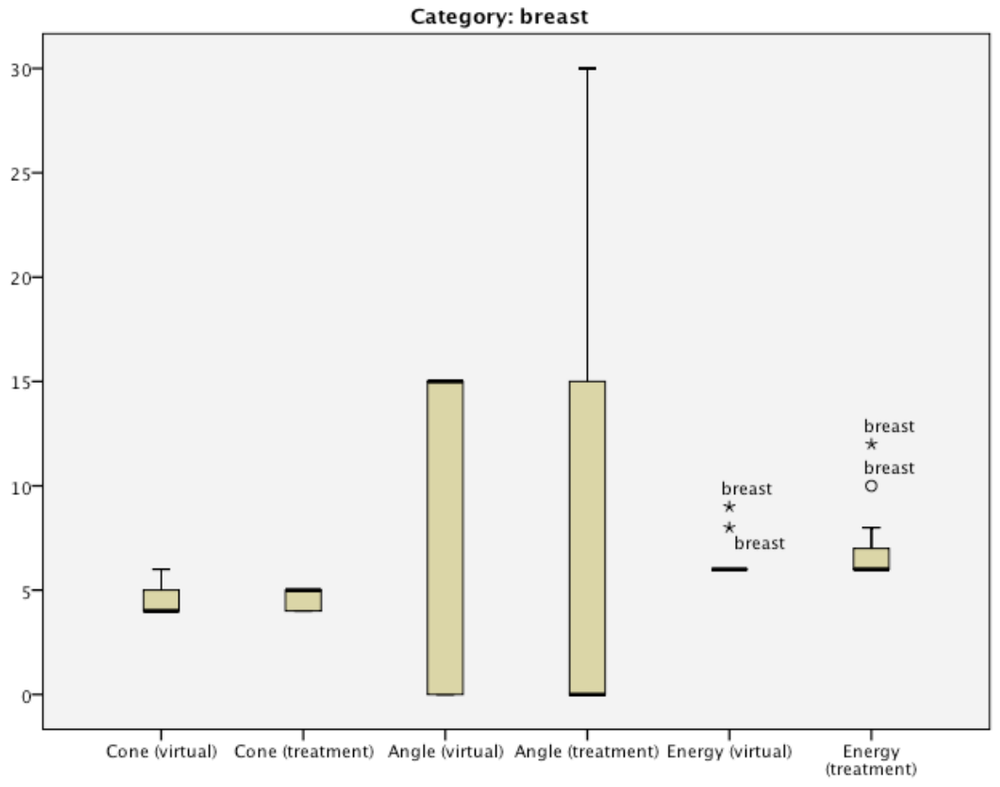
Results

breast cancer (n=11)

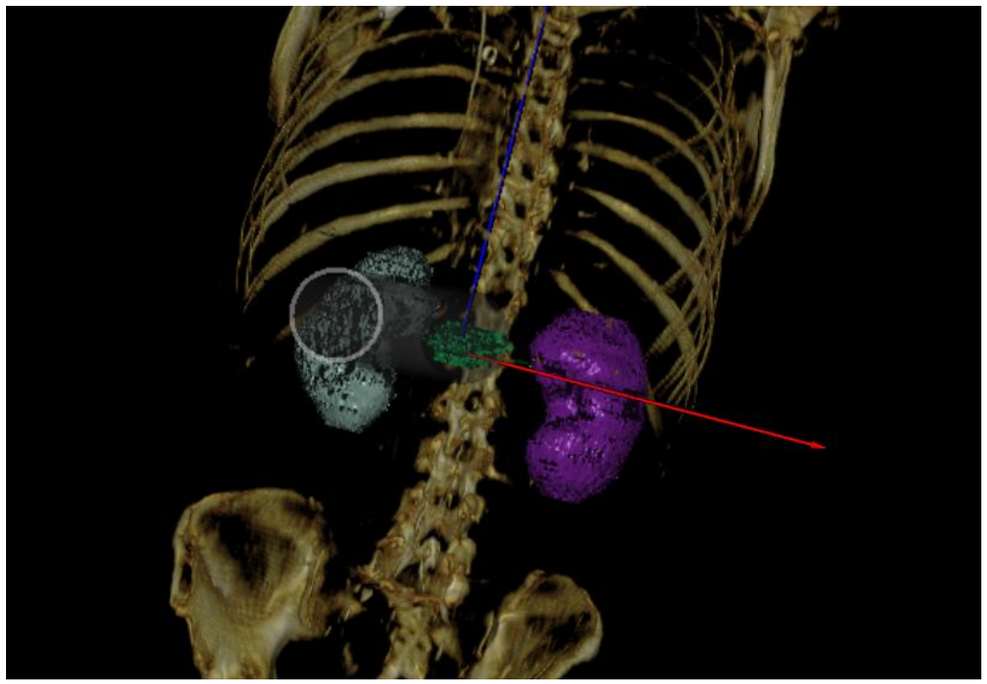


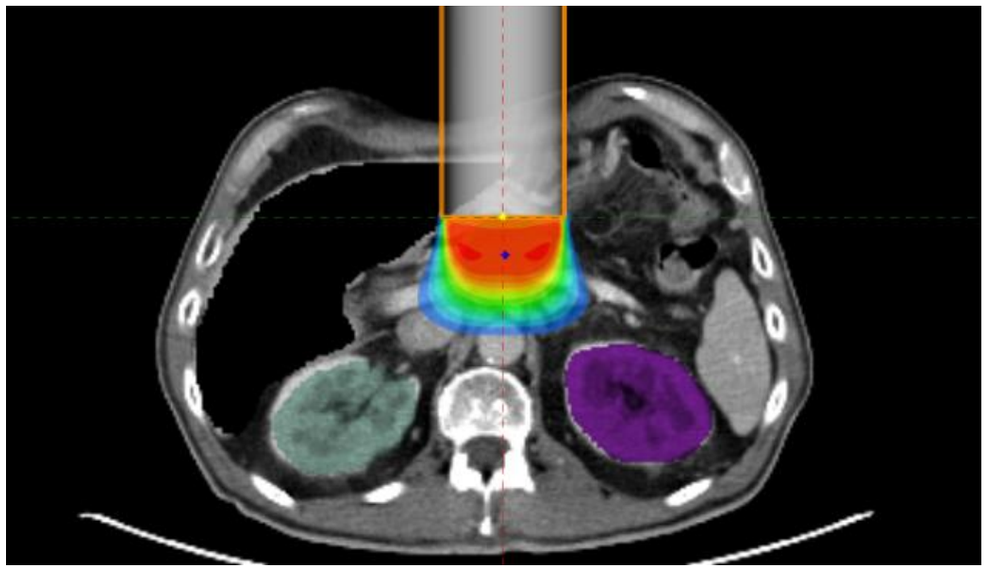
	Coefficient	95% CI
Applicator	0.21	(-0.49 - 0.71)
Angle	0.49	(-0.17 - 0.83)
Energy	0.66	(0.18 - 0.89)





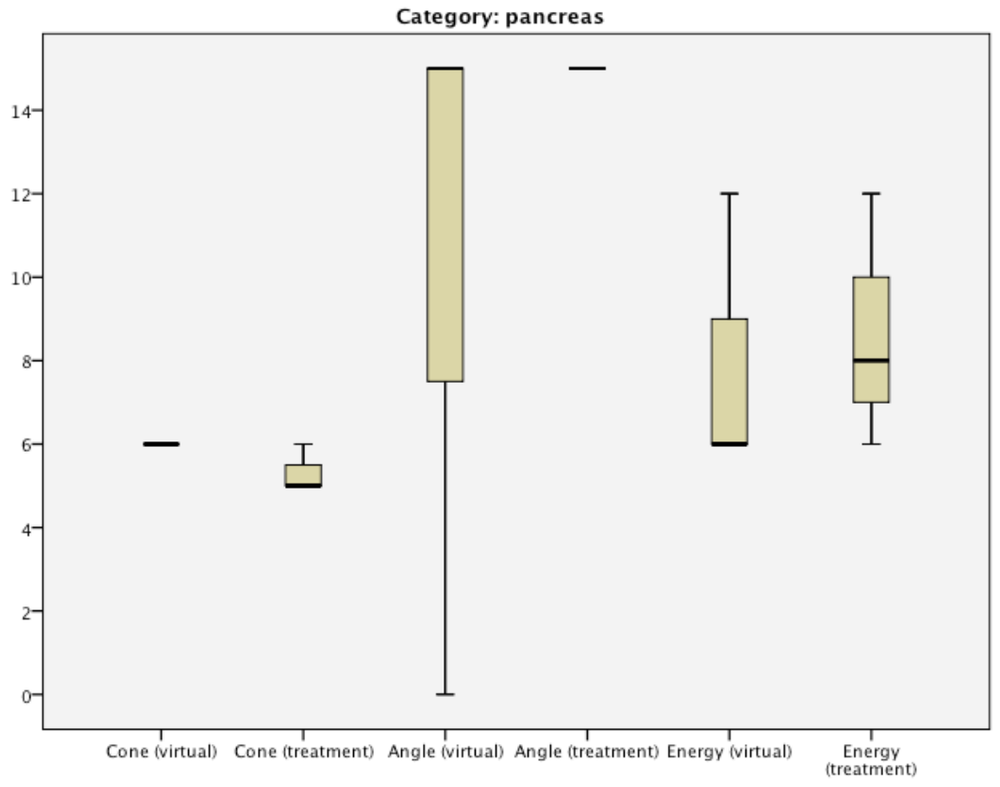
Results



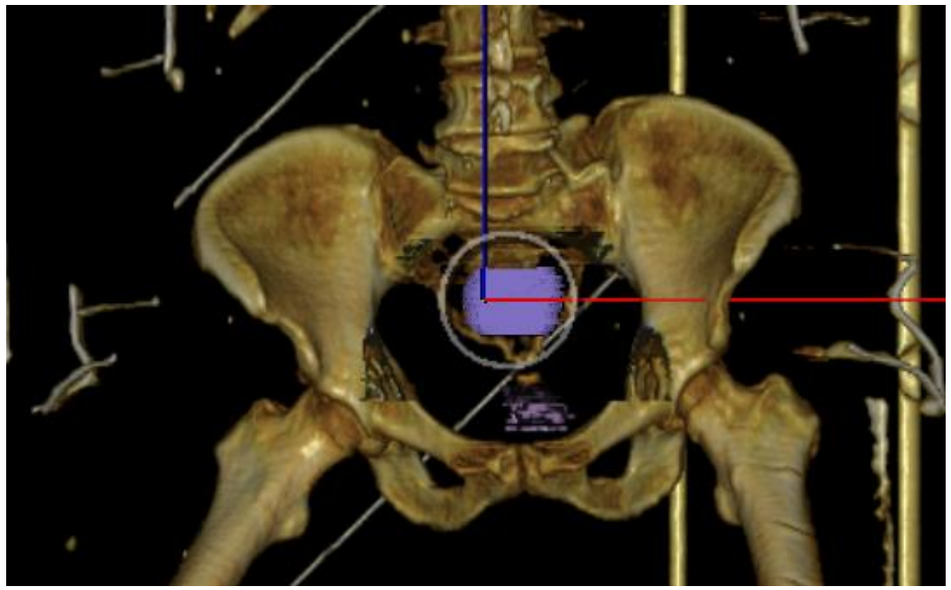


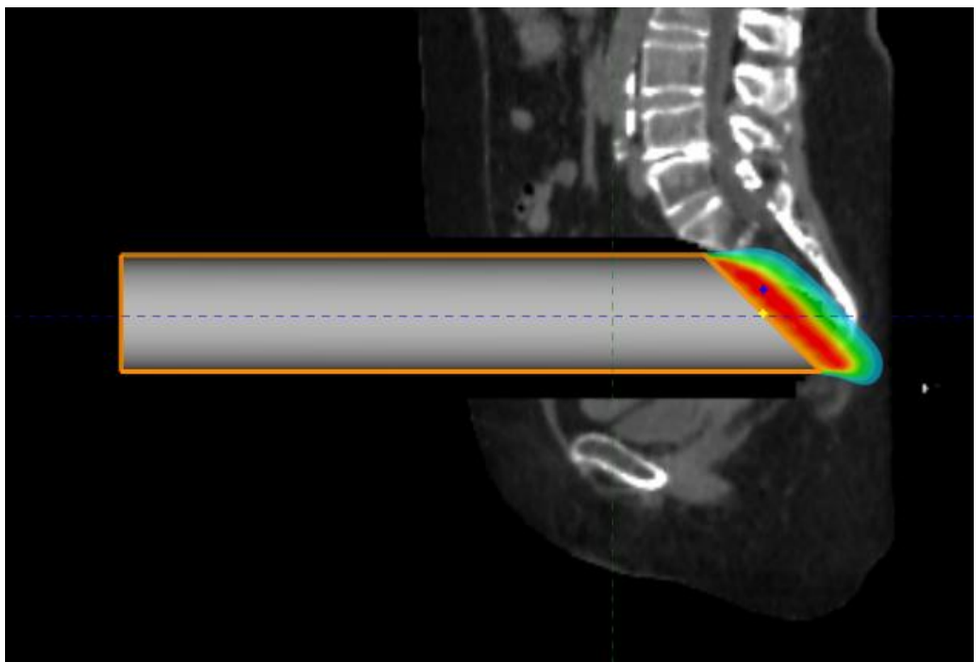
pancreatic cancer (n=3)

	Coefficient	95% CI
Applicator	0	(-0.32 - 0.90)
Angle	0	(-0.95 - 0.95)
Energy	0.93	(0.31 - 0.99)



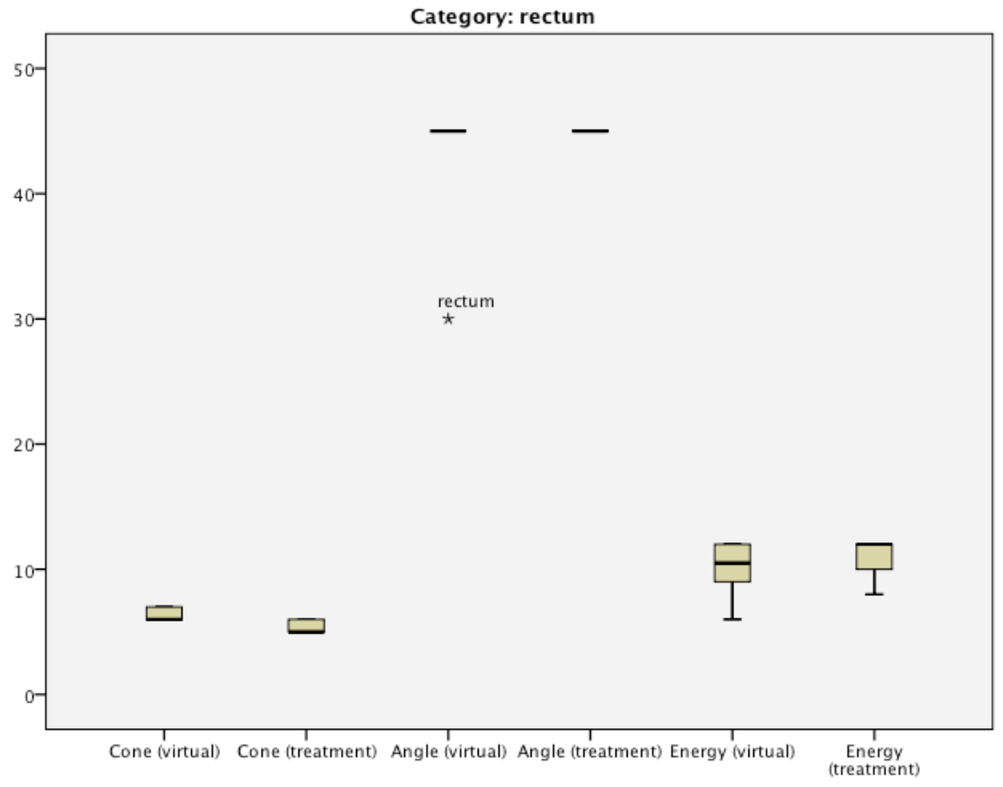
Results





rectal cancer (n=6)

	Coefficient	95% CI
Applicator	0.09	(-0.13 - 0.62)
Angle	0	(-0.75 - 0.75)
Energy	0.52	(-0.25 - 0.91)



Conclusions

- Radiance is a highly reliable tool for pre procedure selection of IORT treatment parameters.

- This technology offers a sensitive and innovative opportunity for IORT treatment planning in the clinical setting, treatment standarization and education.

- Further evaluation of disease categories with small number of patients is needed.

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KEEP
CALM
AND
IORT
PLANNING

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Hospital General Universitario Gregorio Marañón

Comunidad de Madrid

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