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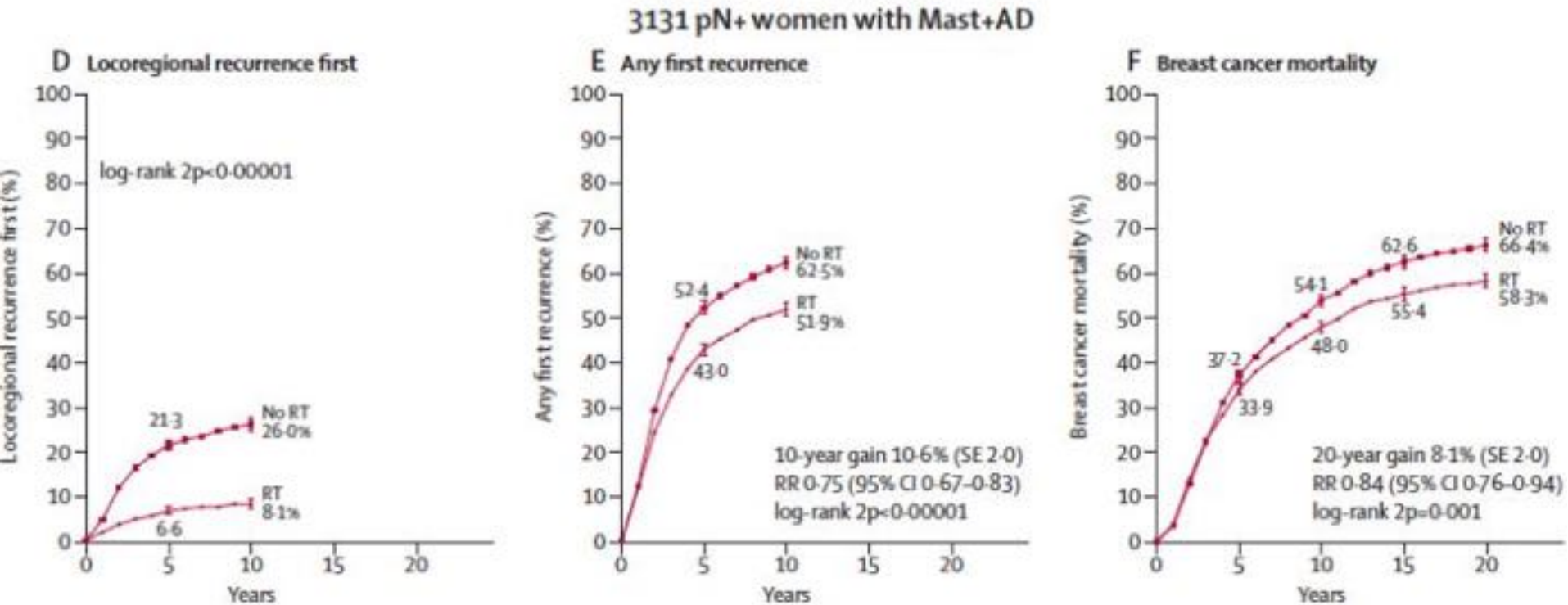


Protesi, espansori e chirurgia oncoplastica: quale approccio nell'impostazione del trattamento radioterapico?

E. Ippolito
Università Campus Biomedico, Roma



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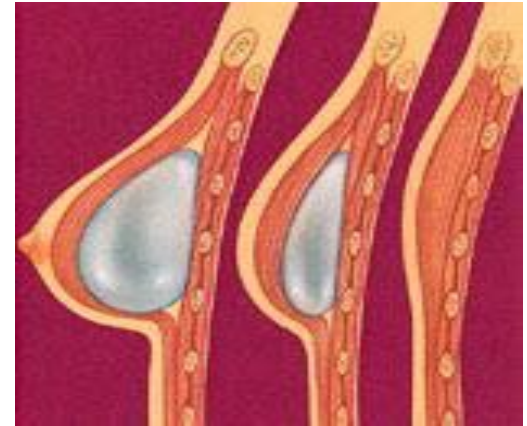
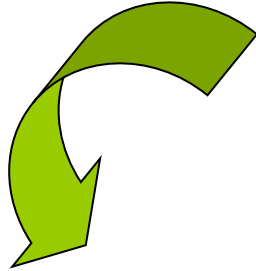
PMRT >> LC

PMRT >> SVV

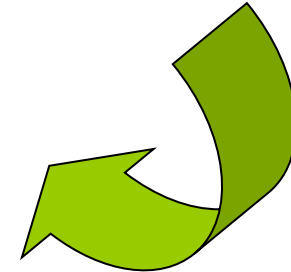
(1.5 recidive → 1 morte per neoplasia mammaria)



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**>> tasso di complicanze
peggior risultato estetico**

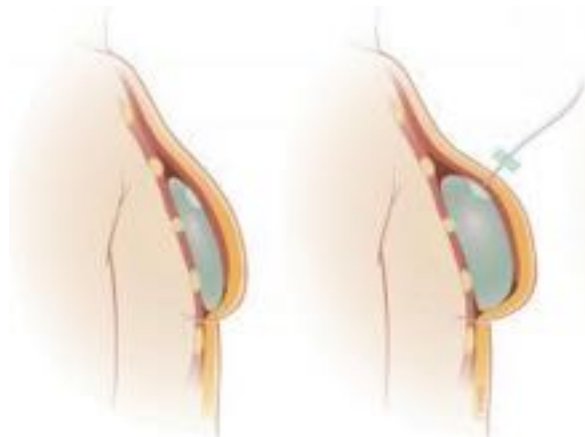


Minor tasso di ricostruzioni in pazienti candidate a RT!

Gurunluoglu R Ann Plast Surg 2013

Mastectomia + ricostruzione con protesi in 2 tempi

RT



RT
(su espansore)



RT
(su protesi)

Mastectomia + ricostruzione con protesi in unico tempo

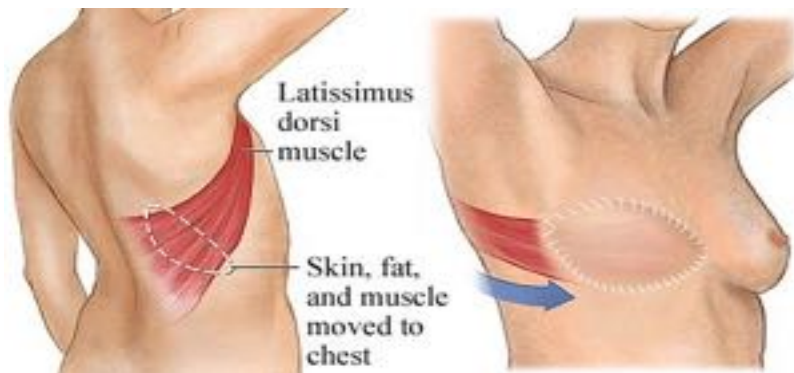
RT



RT
(su protesi)

Mastectomia + ricostruzione con lembo autologo

RT



RT



Complicanze PMRT + ricostruzione (protesi o autologa)

Ematoma	4%
Infezione	5%
Sieroma	5%
Ferita aperta	12%
Fibrosi (contratture capsulari, fibrosi parenchimale)	23%
Liponecrosi	12%
Alterazioni del lembo	5%
Perdita del lembo	4%
Alterazioni dell'impianto	4%
Perdita dell'impianto	16%
Chirurgia correttiva	21%



Tasso globale
di complicanze

34%

Complicanze PMRT + ricostruzione con protesi

The Impact of Postmastectomy Radiotherapy on Two-Stage Implant Breast Reconstruction: An Analysis of Long-Term Surgical Outcomes, Aesthetic Results, and Satisfaction over 13 Years

1415 pts (1998-2010)

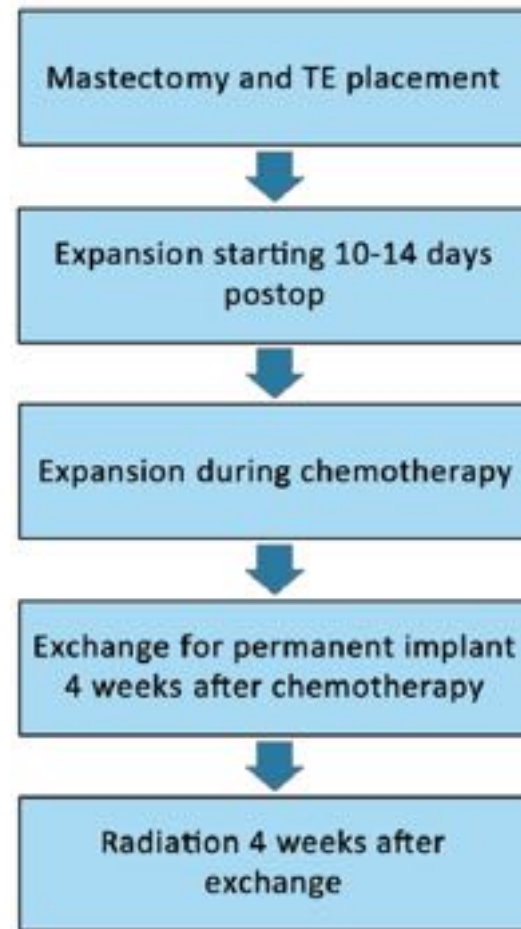
319 PMRT (22.5%)

No differenze fattori di rischio fra i due gruppi

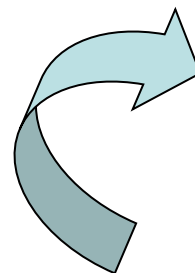
Follow-up mediano 56.8 mesi

Follow-up minimo: 1 anno (64% pts)

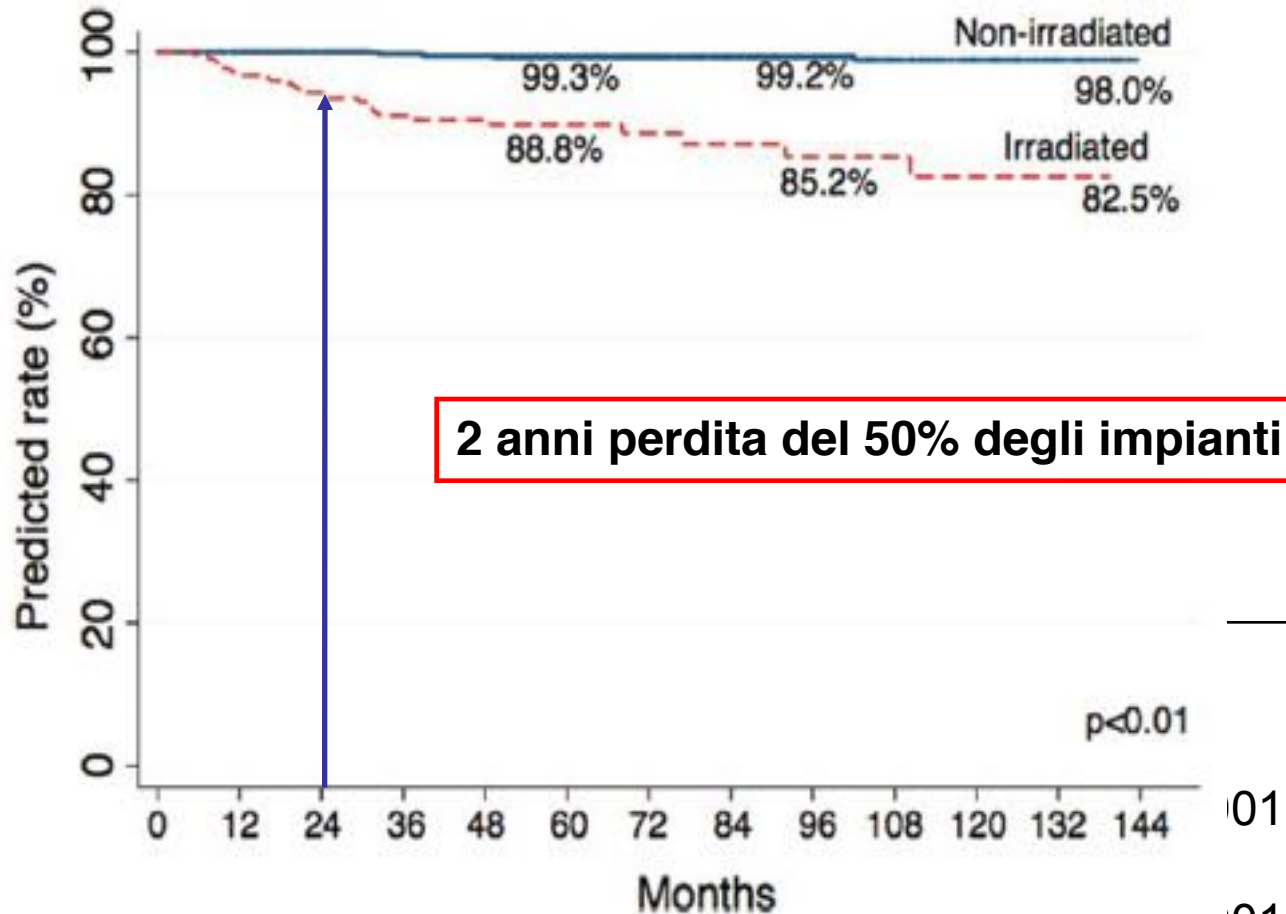
Cordeiro, Plast Reconstr Surgery 2014



RT su protesi definitiva



Complicanze PMRT + ricostruzione con protesi



**Perdi
dell'imp
Conversi
lemb**

**Comunicare
capsulari III-IV**

Complicanze PMRT + ricostruzione con protesi

	No PMRT 1096 pts	PMRT 319 pts	p
Cosmesi- molto buona- eccellente	84.8%	56.7%	<0.001
Soddisfazione del paziente	97.5%	90.1%	<0.001

Complicanze PMRT + ricostruzione con protesi

Postmastectomy Radiation Therapy after
Immediate Two-Stage Tissue Expander/Implant
Breast Reconstruction: A University of British
Columbia Perspective

452 pts (1998-2011)

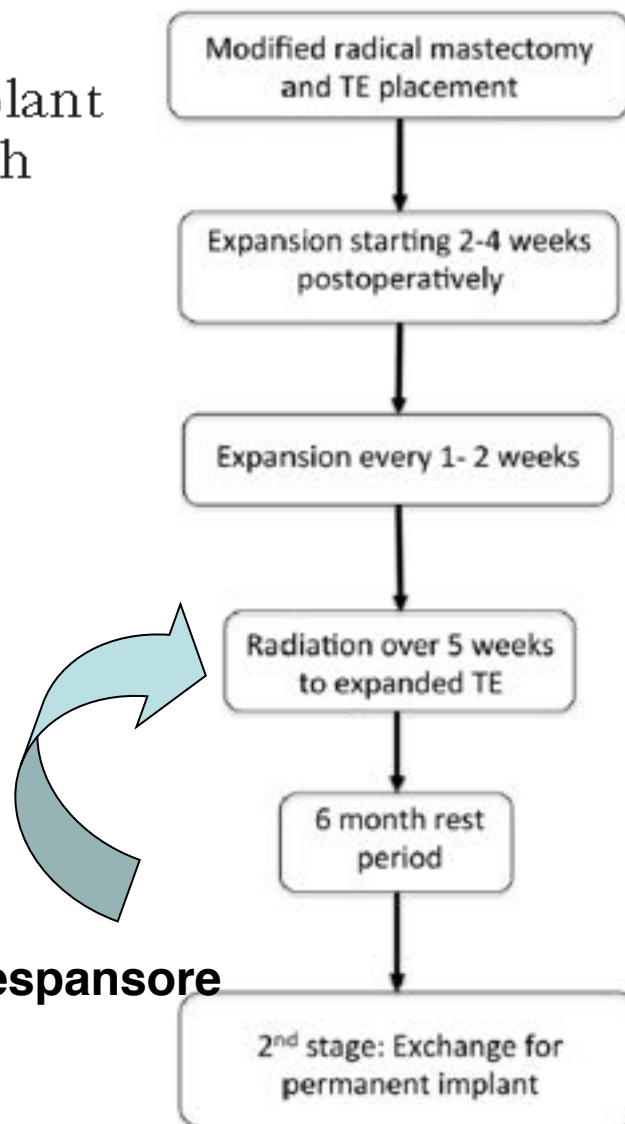
113 PMRT (25%)

Follow-up (37-44 mesi)

No differenze fattori di rischio fra i due gruppi

**Follow-up minimo
(valutazione tox tardiva): 6 mesi**

RT su espansore



Complicanze PMRT + ricostruzione con protesi

	No PMRT 339 pts	PMRT 113 pts	p
Completamento 2 fase ricostruzione	95.6%	76.1%	<0.001
Conversione a lembo	0.8%*	7%*	<0.001
Infezioni	1.8%	5.3%	<0.001
Contratture capsulari grado III-IV	10%**	21%**	<0.001

* Solo su pazienti che hanno completato la II fase ricostruttiva

** Solo su pazienti con follow-up > 6 mesi

Complicanze PMRT + ricostruzione con lembo autologo

Postmastectomy Radiation Therapy and Immediate Autologous Breast Reconstruction: Integrating Perspectives From Surgical Oncology, Radiation Oncology, and Plastic and Reconstructive Surgery

11 studi (1992-2012)

337 pts

Ricostruzione con lembo immediata

nessun studio randomizzato

Follow-up 18-36 mesi

minimo 10 pts

PMRT

Perdita del lembo

0.4%

Liponecrosi

16.9%

Chirurgia correttiva

24.1%

Fibrosi

35.4%

Suggerito approccio misto ritardato-immediato

Rochlin, J Surg Oncology 2015

Outline

- **Timing**

- Evoluzioni chirurgia oncoplastica
- Planning
- QoL





**RECONSTRUCTION
FIRST**

?

**RADIOTHERAPY
FIRST**

Timing PROTESI

Bebbers J. Eur J Cancer 2014

37 studi (2000-2012)

1048 pts (protesi)

nessun studio randomizzato

Protesi/Autologa

minimo 20 pts

Escluse casistiche di recidive ●

Momoh A O, Ann Surg Oncol 2014.

26 studi (1992-2012)

1489 pts

nessun studio randomizzato

solo protesi

minimo 10 pts

Incluse casistiche di recidive



Timing protesi

La protesi definitiva va posizionata prima o dopo la RT?

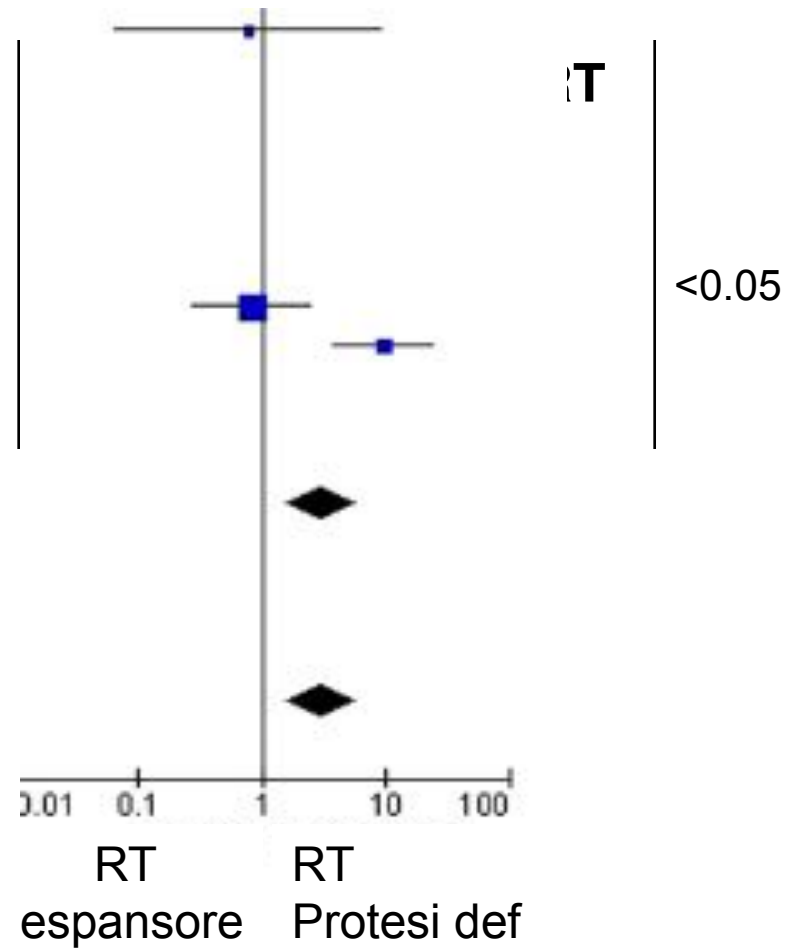
COMPLICATIONS
RATE

RT → protesi definitiva
(RT su espansore)

48.7%



**FALLIMENTO IMPIANTO
PROTESICO**



Timing protesi

La ricostruzione è possibile in pazienti pre-irradiate?

	RT First	Reconstruction First (RT su protesi/espansore)	p
COMPLICATIONS			
RATE	49%	39%	NS



Momoh A O,
Ann Surg Oncol 2014.

Timing RICOSTRUZIONE CON LEMBO AUTOLOGO

Bebers J. Eur J Cancer 2014

37 studi (2000-2012)

1635 pts (autologa)

**nessun studio
randomizzato**

Protesi/Autologa

minimo 20 pts

**Escluse casistiche
di recidive**

Kelley BP. Ann Surg Oncol 2014

20 studi (1994-2012)

1580 pts

**nessun studio
randomizzato**

Autologa

minimo 10 pts



Timing RICOSTRUZIONE CON LEMBO AUTOLOGO

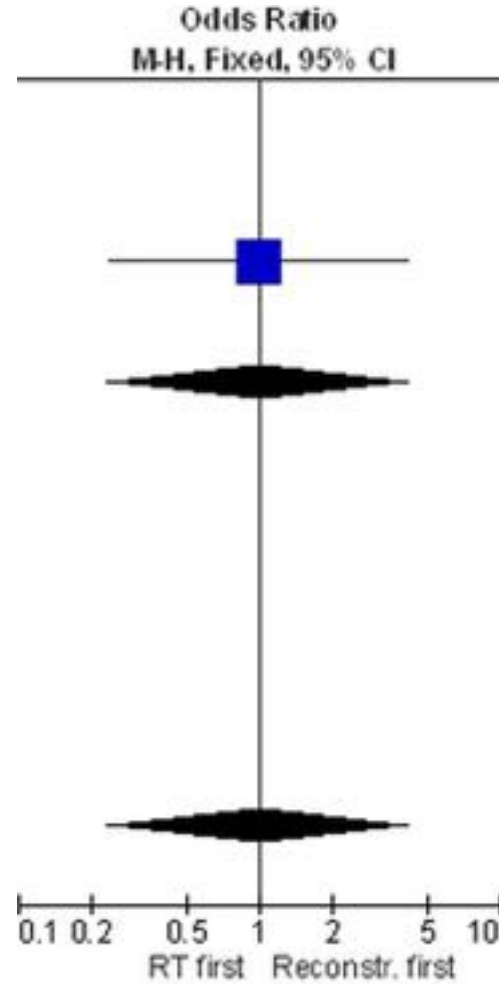
La ricostruzione autologa va effettuata prima o dopo RT?

	Complicanze tot		Liponecrosi		Fibrosi	
	RT first	Rec first	RT first	Rec first	RT first	Rec first
Bebers J. 2014	36	36.8	8.9	18.9	2.7	36
Kelley BP. 2014	-	-	10	13	-	27



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PERDITA del LEMBO



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RT first

	Lembo autologo	Impianto
Fibrosi	2.7%	20.8%
Revisione Chirurgica	11.5%	42.5%
	Lembo autologo	Impianto
Revisione Chirurgica	23.6%	8.5%

Reconstruction first



Outline

- Timing
- **Evoluzioni chirurgia oncoplastica**
- Planning
- QoL



Total skin/ nipple sparing mastectomy



Mastectomia
tradizionale



Mastectomia
Skin-sparing



Mastectomia
Nipple-sparing/Total skin sparing



Total skin/ nipple sparing mastectomy

Immediate Implant-Based Breast Reconstruction following Total Skin-Sparing Mastectomy: Defining the Risk of Preoperative and Postoperative Radiation Therapy for Surgical Outcomes

903 mastectomie TSS +
ricostruzione con protesi in 2 tempi

176 PMRT (19.5%)

Coorti RT

>> rischio sieroma

>> rischio infezione

= rischio necrosi del capezzolo

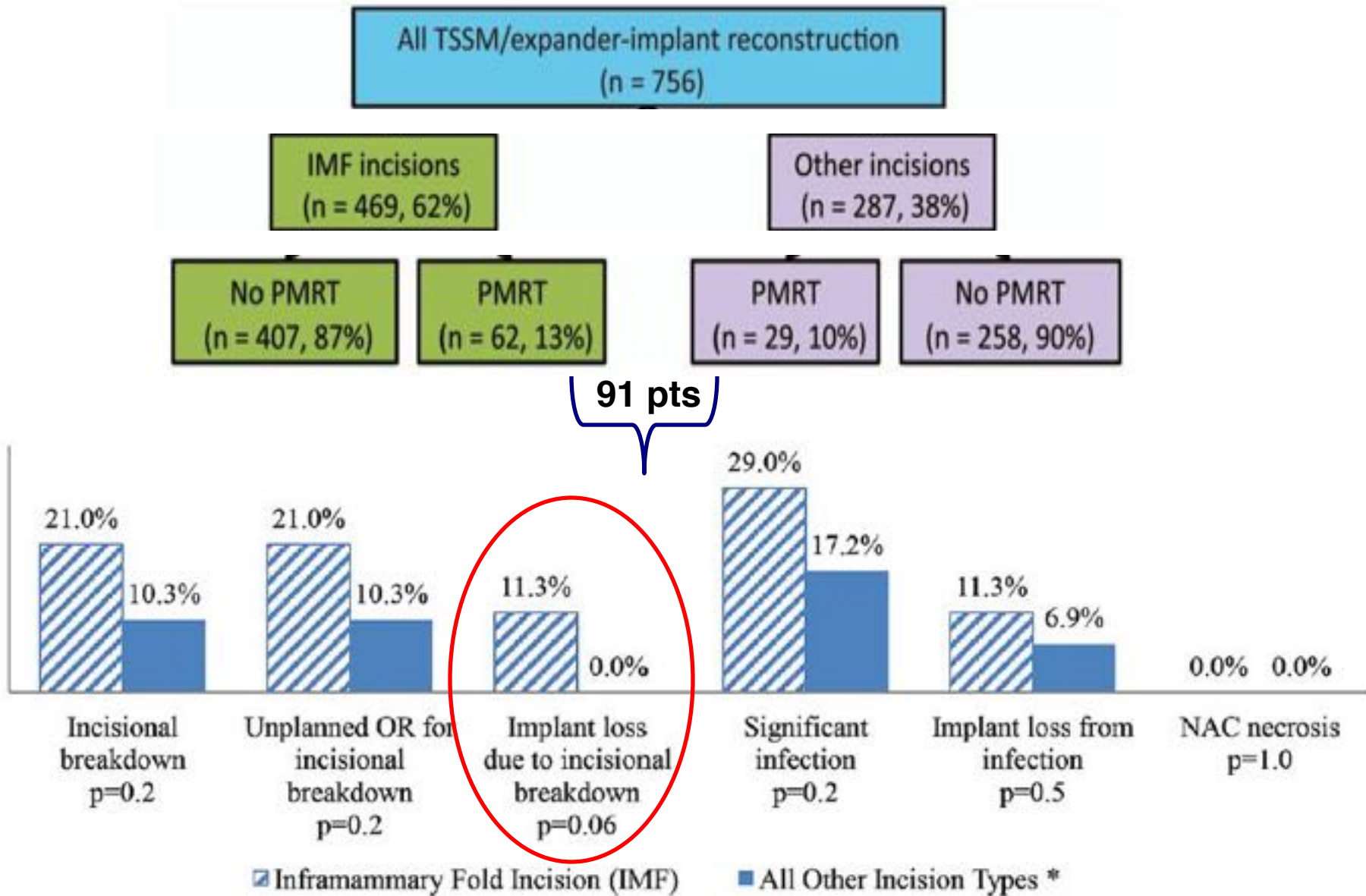
No RT
(727)

RT → TSS+ ricostr.
(63)

TSS + ricostruzione
+ RT (su espansore)
(113)



Total skin/ nipple sparing mastectomy



ADM- matrici dermiche acellulari

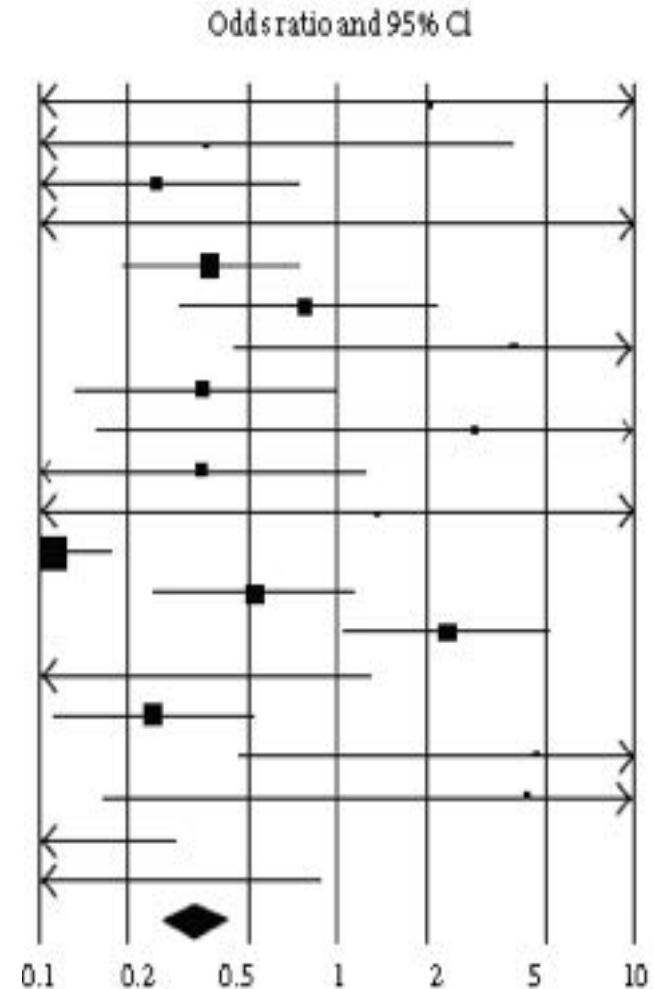


Acellular Dermal Matrix

20 studi
2001-2012

3331 ricostruzioni
16 % PMRT

**PMRT aumenta il tasso di complicanze
nelle ricostruzioni eseguite con ADM**



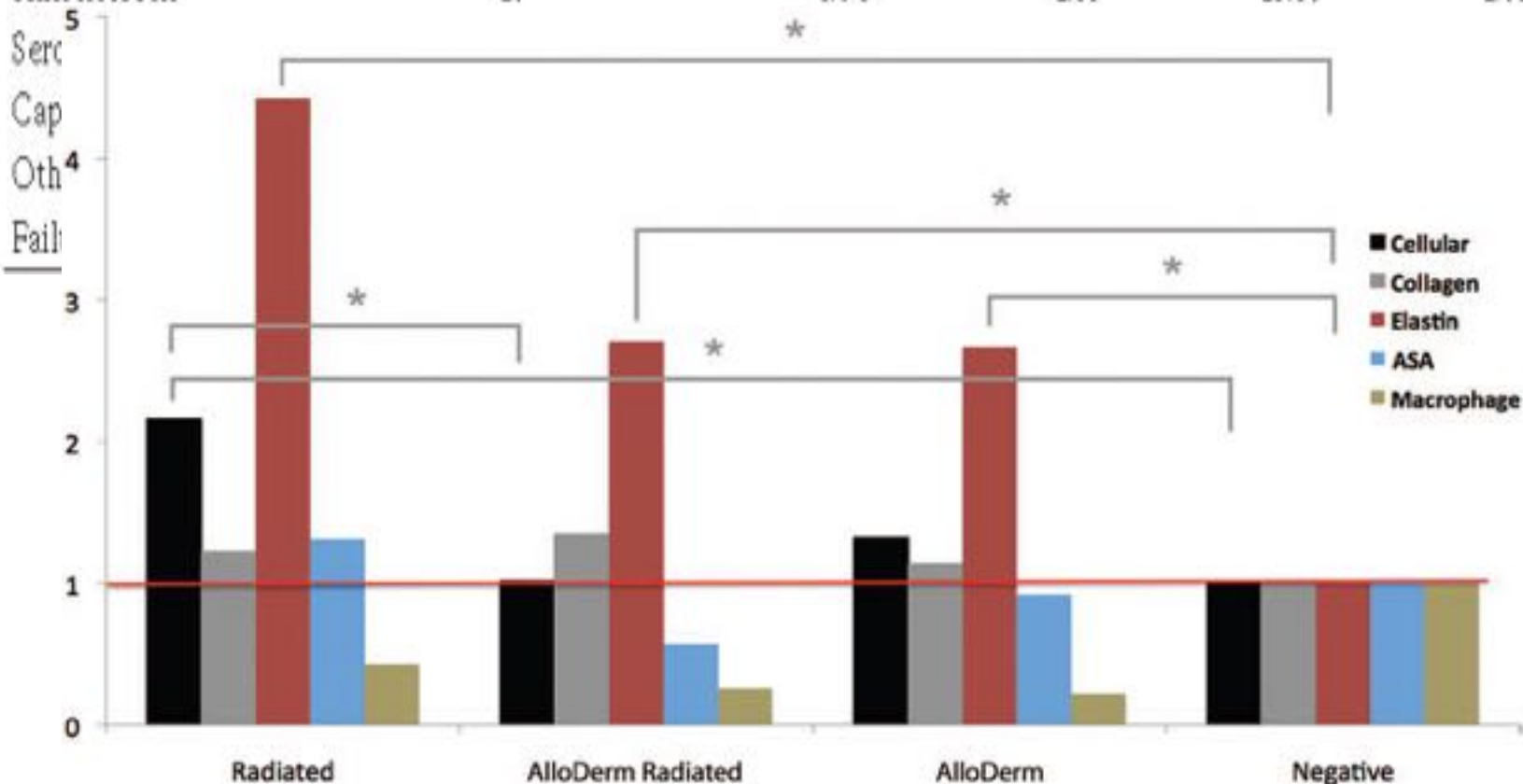
RT worse

RT better

Valdatta, Plast Surg Intern 2014

ADM- matrici dermiche acellulari

Complication	Number of studies	No RXT (%)	ES	RXT (%)	ES	P value
Overall	11	15.63	3.59	24.71	5.67	0.000
Infection	10	8.19	2.73	12.04	4.01	0.400
Skin necrosis	10	4.04	1.35	15.50	1.05	0.000
Ser						0.045
Cap						0.033
Oth						0.000
Fail						0.000



Valdatta, *Plast Surg Intern* 2014
Moyer, *Plast Reconstr Surgery* 2014

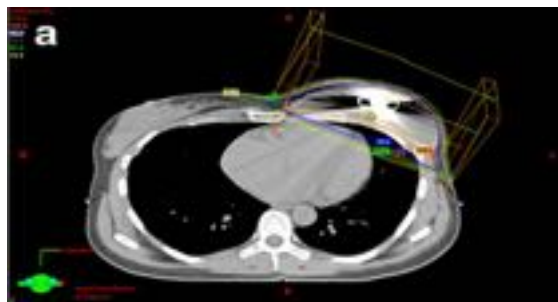
Outline

- Timing
- Evoluzioni chirurgia oncoplastica
- **Planning**
- QoL

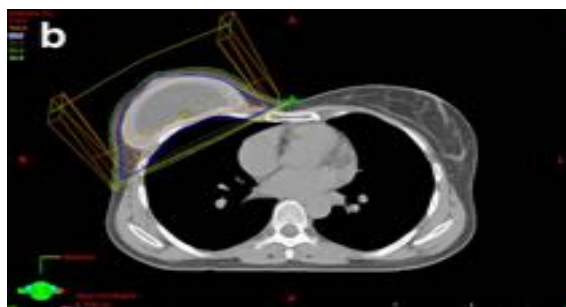


Planning dopo ricostruzione: OARs

818 pazienti: 162 protesi, 656 no protesi (3D- RT; parete +/- N sovraclaveari, no IMN)



30 pts
espansore



92 pts
protesi espandibile



40 pts
protesi definitiva

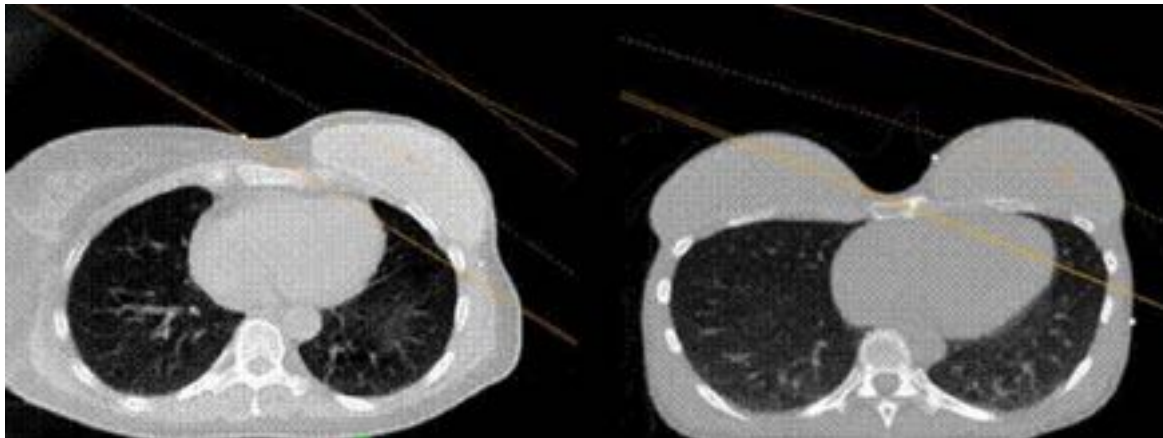
Outcome variable	Covariate	Chest wall n = 242		Chest wall plus lymph nodes n = 576	
		OR (95%CI)	P-value	OR (95%CI)	P-value
Lung V _{20Gy}	IBR- vs. IBR+	1.7 (0.5 to 5.8)	0.41	0.6 (0.4 to 1.0)	0.07
	Right vs. Left	1.1 (0.3 to 3.8)	0.89	0.8 (0.5 to 1.5)	0.59
	CWI ≤ median vs. CWI > median	0.7 (0.2 to 2.3)	0.51	0.2 (0.1 to 0.5)	0.004
Heart D _{mean} *	IBR- vs. IBR+	-	-	1.2 (0.5 to 3.1)	0.72
	Right vs. Left	-	-	-	-
	CWI ≤ median vs. CWI > median	0.2 (0.3 to 1.8)	0.16	0.9 (0.5 to 1.8)	0.82

No differenza
dose OARs



Planning dopo ricostruzione: OARs

197 pazienti: 100 monolaterali, 97 bilaterali (94% IMRT; RT parete +/- N sovraclaveari +/- IMN)



PTV _{CW}	D95
PTV _{CW + IMN*}	
Ipsilateral Lung	V20
Heart	V25
Contralateral Implant	Dmax

	PTV CW D95 < 98%	V20Gy polmone ≥ 30 %	V25Gy cuore > 5%	Impianto controlaterale
--	------------------------	----------------------------	------------------------	----------------------------

IMN 0.56 <0.0001 0.046 0.001

N°
impianti
protesici 0.76 0.54 0.38 NV



Outline

- Timing
- Evoluzioni chirurgia oncoplastica
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- **QoL**



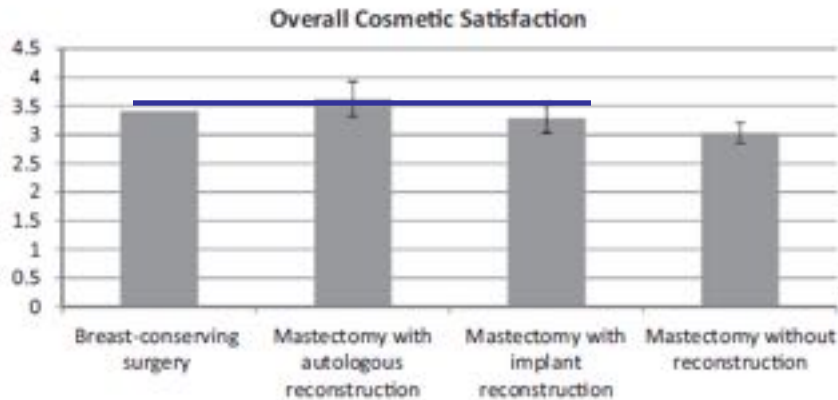
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Patient-Reported Quality of Life and Satisfaction With Cosmetic Outcomes After Breast Conservation and Mastectomy With and Without Reconstruction

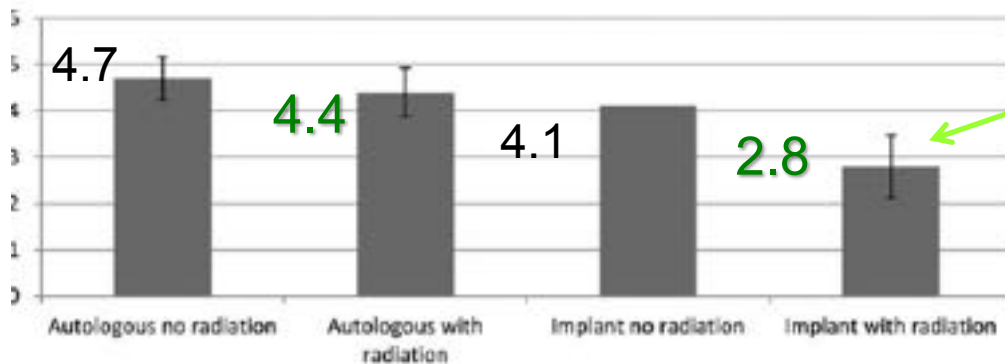
Results of a Survey of Breast Cancer Survivors

1450 lungo sopravvivenuti

222 mastectomie + ricostruzione



**Mastectomia +
ricostruzione =
BCS**



**Meno
soddisfatte**



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BREAST-Q scale	Mean BREAST-Q scores (SD)		Mean score difference	<i>p</i> value
	Nonirradiated group (<i>n</i> = 414)	Postmastectomy radiation group ^a (<i>n</i> = 172)		
Satisfaction with breasts	64.0 (21.7)	57.0 (21.8)	7.0	<0.01
Satisfaction with outcome	71.4 (22.7)	64.9 (24.0)	6.5	<0.01
Psychosocial well-being	70.9 (20.5)	65.2 (21.4)	5.7	<0.01
Sexual well-being	52.3 (21.7)	45.4 (20.7)	6.9	<0.01
Physical well-being: chest and upper body	75.1 (17.0)	71.7 (17.8)	3.4	0.01

**586 pazienti
mastectomie + ricostruzione**

172 PMRT



**Ricostruzione Bilaterale +
Tipo di impianto (silicone) +**

**Radioterapia -
BMI alto -**



RISULTATO ONCOLOGICO

RISULTATO ESTETICO

SODDISFAZIONE DEL PAZIENTE

