13. Brustkrebs Kongress 2020

Köln und Niederrhein

18. Januar 2020

Brustzentrum Köln-Hohenlind

Kliniken Köln – Beste Medizin für alle.

UNIKLINIK KÖLN

Brustzentrum Köln | Frechen

BRUSTZENTRUM NIEDERRHEIN

DEUTSCHES KONSORTIUM Familiärer Brust- und Eierstockkrebs

Die Implantat-Sofortrekonstruktion:

Sind die Risiken am Ende zu hoch?

C. Schumacher

Brustzentrum

St. Elisabeth-Krankenhaus

Sind die Risiken am Ende zu hoch?

Ma… mie mit sofortiger implantatgestützter Brustrekonstruktion mit und ohne Netz A… zu empfehlen

B… implantat… tion zum Zeitpunkt … mie mit oder ohne biologis… oder synthetisches Netz mag theoretisch eine gute Idee sein, praktisch ist sie offenbar aber noch nicht ausgereift. Darauf deuten Ergebnisse einer multizentrischen, prospektiven Kohortenstudie hin. Demnach sind Komplikationen nach sofortiger implantatbasierter Brustrekonstruktion höher als nationale Standards empfehlen.

In diese Studie hatten Dr. Shelley Potter vom Bristol Centre for Surgical Research und ihre Kollegen 2108 Patientinnen mit 2655 Mastekto-…

…konstruktion an … aufge- … ruktion erfolg… tinnen, bei denen pr… andere Technik angewendet wurd…

Wie die Autoren feststellten, hatten 1376 (65%) Patientinnen eine Rekonstruktion mit biologischen (1133 [54%]) oder synthetischen (243 [12%]) Netzen, 181 (9%) mit nicht netzartigen submuskulären oder subfaszialen Implantaten, 440 (21%) mit dermalen Schlingenimplantaten, 42 (2%) mit präpektoralen Implantate und 79 (4%) mit …

Kombination von Implantaten. Daten zu den Ergebnissen nach 3 Monaten waren für 2081 (99%) Frauen ver- … Von diesen Patientinnen … 95%-Konfidenz- … men … mussten aufgrund … nen innerhalb von 3 Mon… der ersten Operation erneut operiert werden. Ferner war bei 522 Patientinnen (25%; 95%-KI 23–27) eine Behandlung wegen einer Infektion erforderlich. Die Raten aller dieser Komplikationen liegen über den Obergrenzen, die von den nationalen Qualitätsstandards empfohlen wer-

den (… talisi… <10… Aut… Kor… Que… 254… Wel… 204…

Landgericht Düsseldorf

Beschluss

In dem Rechtsstreit

[redacted]

wird dar… Tätigkeit ihrer Prozessbev… ebührensatz rechtfertigen könnte, noch … hat. Es ist nicht erkennbar, welcher konkrete zusätzliche … Tätigkeit ausgeführt worden seien soll, der das übliche M… Tätigkeit in eine Arzthaftungssache, welches die 1,3fache Mittelgebü… bersteigen würde, zumal die Klägerin selbst mit Schriftsatz vom … vorbringt, es liege (nur) ein durchschnittlich…

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Mammarekonstruktion

Aktuelle operative Trends

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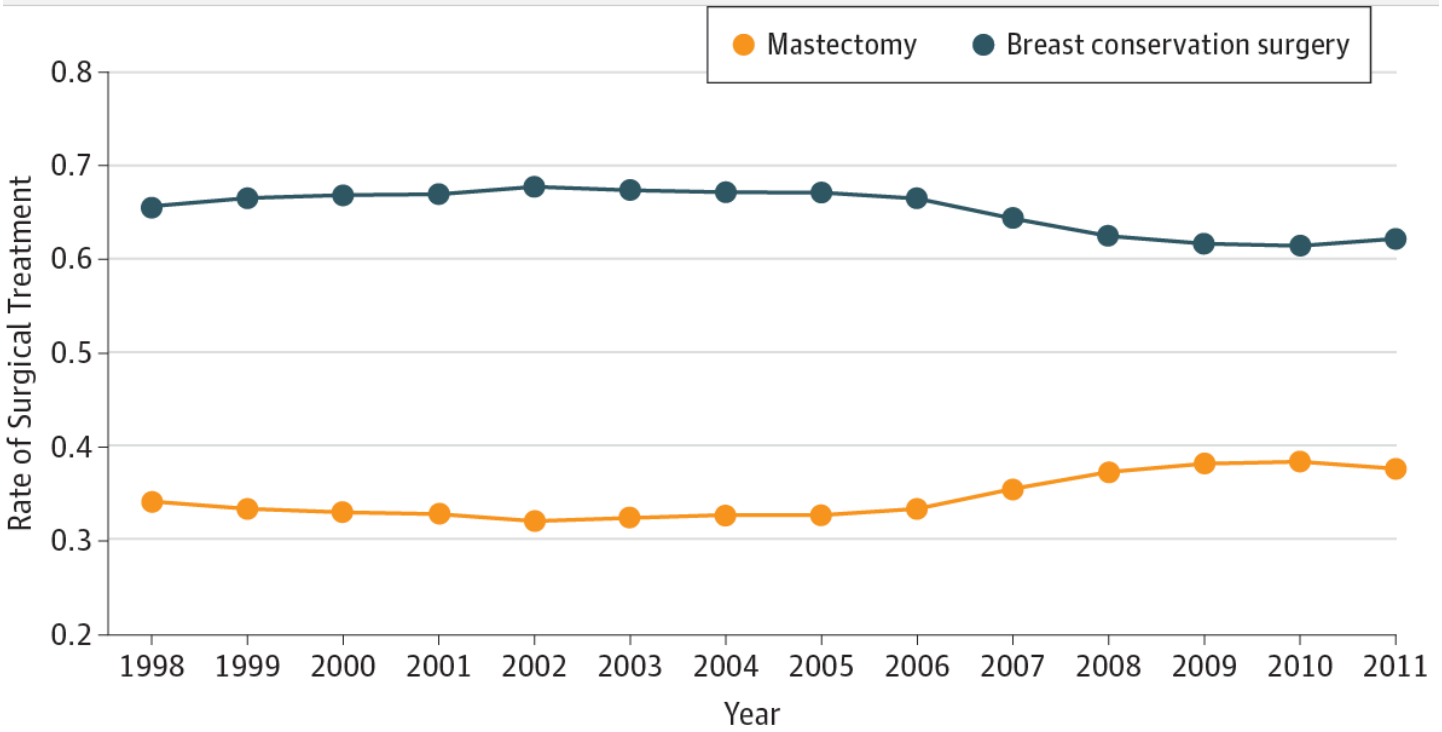
Köln-Hohenlind

Trends in der Operativen Therapie des Mammakarzinoms

A retrospective cohort study of more than 1.2 million adult women treated at centers accredited by the American Cancer Society and the American College of Surgeons Commission on Cancer from January 1, 1998, to December 31, 2011, **using the National Cancer Data Base.**



Temporal Trends in Surgical Treatment of Early Breast Cancer

Proportion of women with early breast cancer who underwent mastectomy (orange line) and breast conservation surgery (blue line) by year of diagnosis in the National Cancer Data Base. All trends are significant ($P<.001$).

Kummerow KL, Du L, Penson DF, Shyr Y, Hooks MA., *JAMA Surg.* 2015;150(1):9–16

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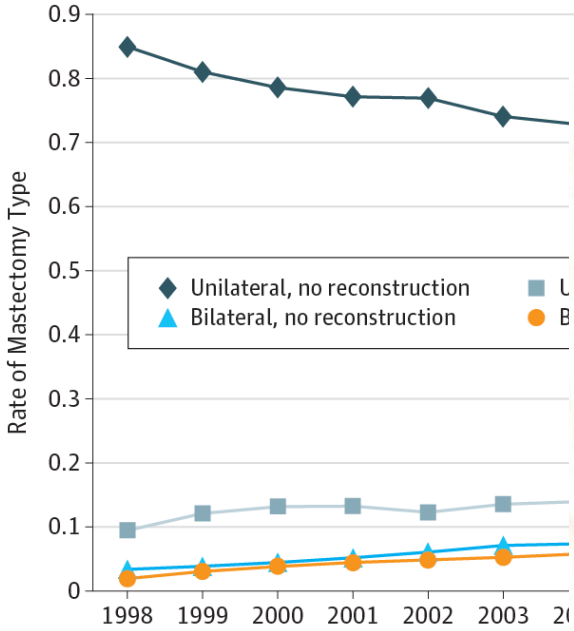
Trends in der Operativen Therapie des Mammakarzinoms



Temporal Trends in Type of Mastectomy for Early Breast Cancer
Proportion of mastectomies for early breast cancer that were unilatera
reconstruction (light blue line with squares), bilateral without reconst
(orange line with circles) by year of diagnosis in the National Cancer D
for each breast cancer case (includes staged approaches). Reconstruct
approaches. All trends are significant ($P<.001$).

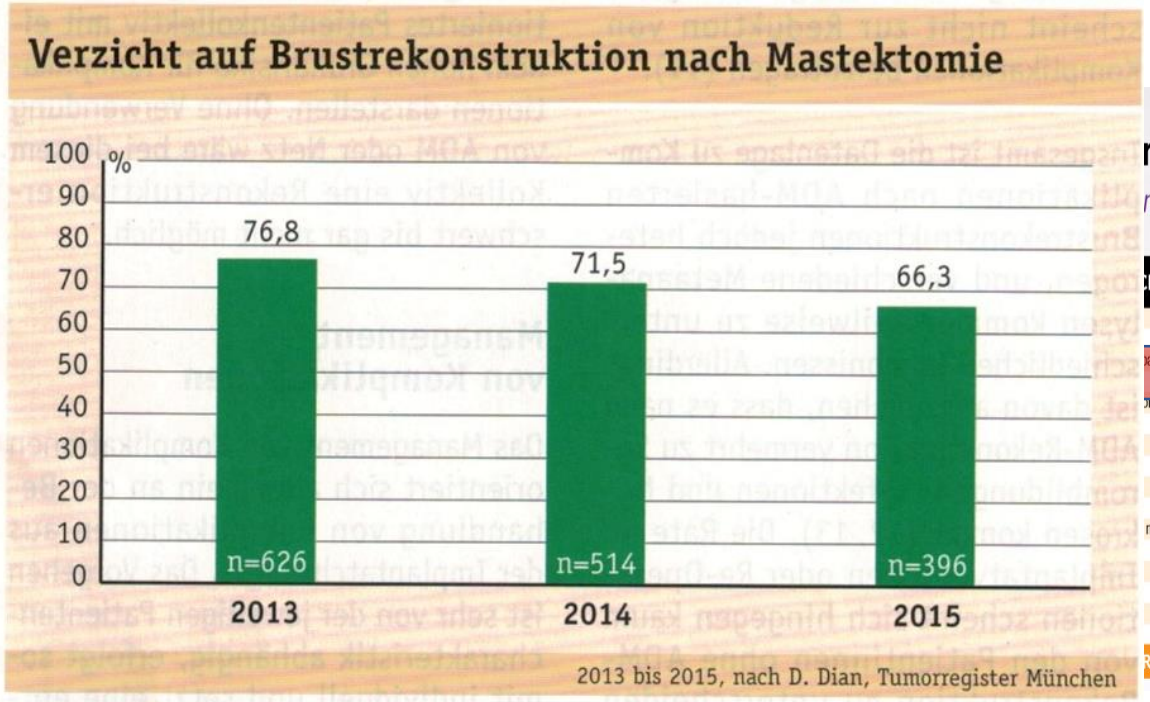
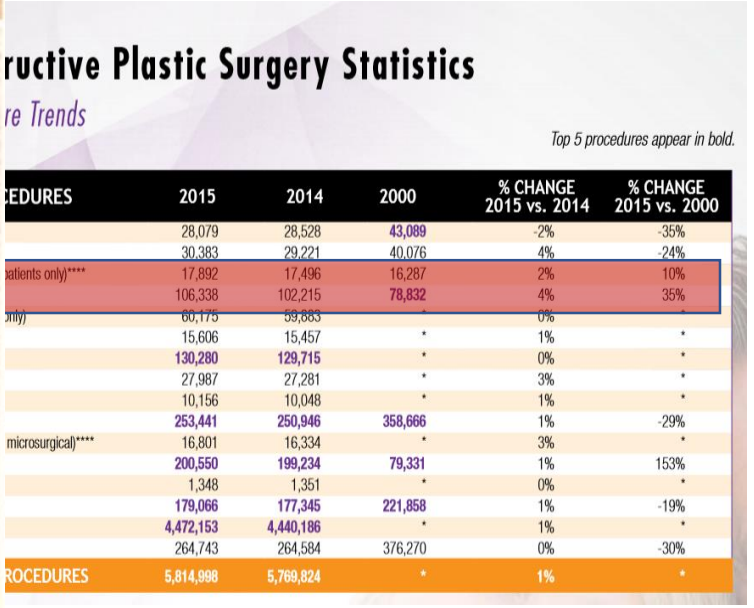


Abb. 3: Der Anteil der Patientinnen, die nach Mastektomie keine Rekonstruktion der Brust durchführen ließen, ist rückläufig.



ructive Plastic Surgery Statistics

re Trends

Top 5 procedures appear in bold.

CEDURES	2015	2014	2000	% CHANGE 2015 vs. 2014	% CHANGE 2015 vs. 2000
	28,079	28,528	43,089	-2%	-35%
	30,383	29,221	40,076	4%	-24%
atients only)****	17,892	17,496	16,287	2%	10%
	106,338	102,215	78,832	4%	35%
only)	60,175	59,883	*	0%	*
	15,606	15,457	*	1%	*
	130,280	129,715	*	0%	*
	27,987	27,281	*	3%	*
	10,156	10,048	*	1%	*
	253,441	250,946	358,666	1%	-29%
microsurgical)****	16,801	16,334	*	3%	*
	200,550	199,234	79,331	1%	153%
	1,348	1,351	*	0%	*
	179,066	177,345	221,858	1%	-19%
	4,472,153	4,440,186	*	1%	*
	264,743	264,584	376,270	0%	-30%
ROCEDURES	5,814,998	5,769,824	*	1%	*

Kummerow KL, Du L, Penson DF, Shyr Y, Hooks MA., *JAMA Surg.* 2015;150(1):9–16

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Trends in der Operativen Therapie des Mammakarzinoms

Current Trends in Post-Mastectomy Breast Reconstruction

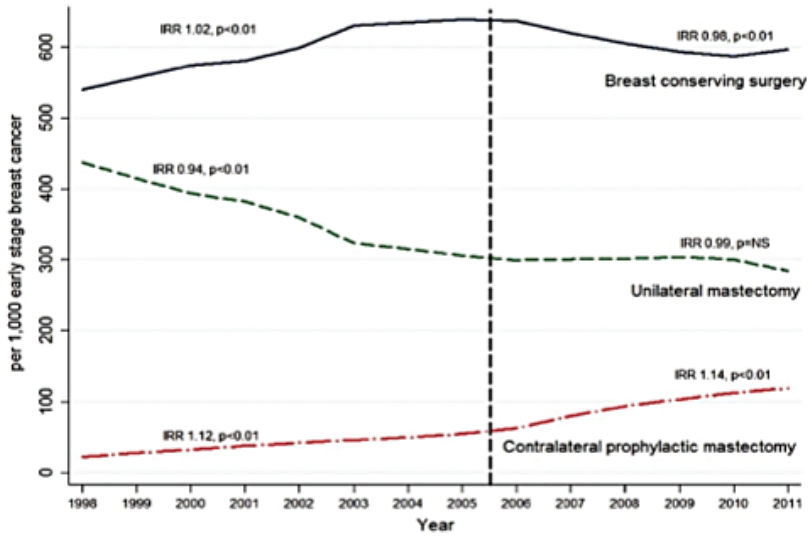

Figure 1.
Temporal Trends of Surgical Treatment in Patients with Early Stage Breast Cancer from 1998–2011 Using National Cancer Database, IRR: Incidence Rate Ratio; NS: Not significant; Adapted from Albornoz et al. 2015 Source: *Bilateral Mastectomy versus Breast-Conserving Surgery for Early-Stage Breast Cancer: The Role of Breast Reconstruction.* Plastic and Reconstructive Surgery. 135(6): 1518–1526, June 2015.

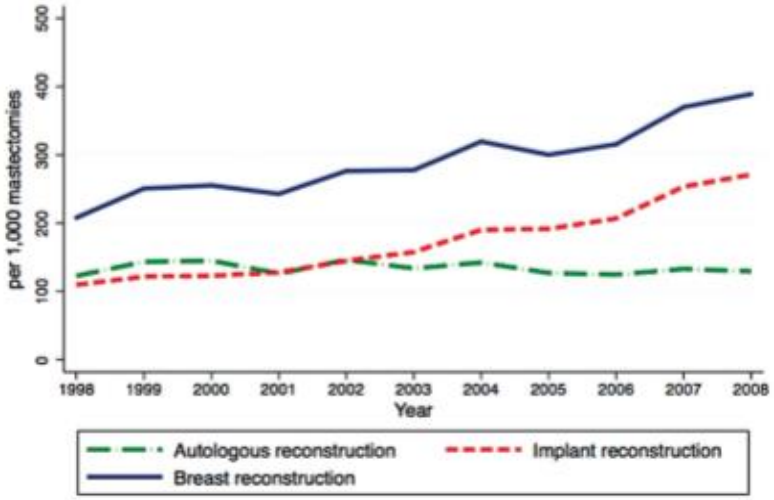

Figure 2.
Temporal Trends of Reconstructive Methods in Patients who underwent Mastectomy from 1998–2008, Using Nationwide Inpatient Sample Database IRR: Incidence Rate Ratio; NS: Not significant; Adapted from Albornoz et al. 2013 Source: *A Paradigm Shift in U.S. Breast Reconstruction: Increasing Implant Rates.* Plastic and Reconstructive Surgery. 131(1): 15–23, January 2013.

Over the past decade, prosthetic techniques have become the method of choice for postmastectomy reconstruction in over 70% of cases. Reasons for increased implant use are multifactorial, but include changes in oncologic practice, such as greater number of bilateral mastectomies and broader indications for PMRT

Hina Panchal et al., Plast Reconstr Surg . 2017 November ; 140(5): 7S–13S

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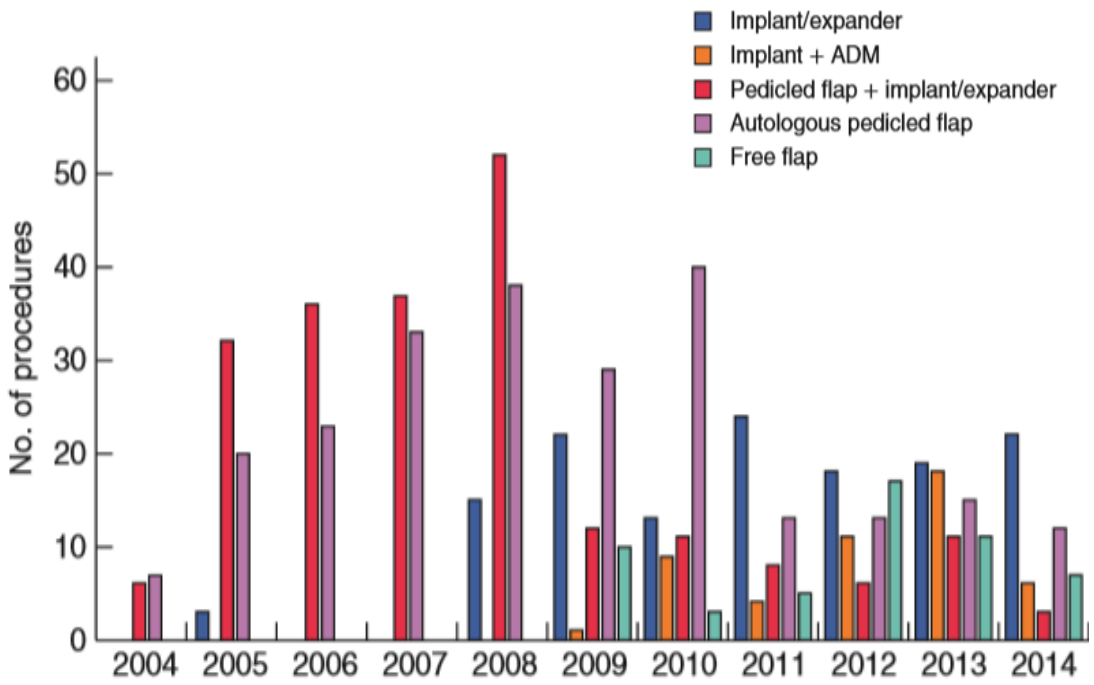
Trends in der Operativen Therapie des Mammakarzinoms

Breast reconstruction practices in a specialized tertiary referral centre in Ireland



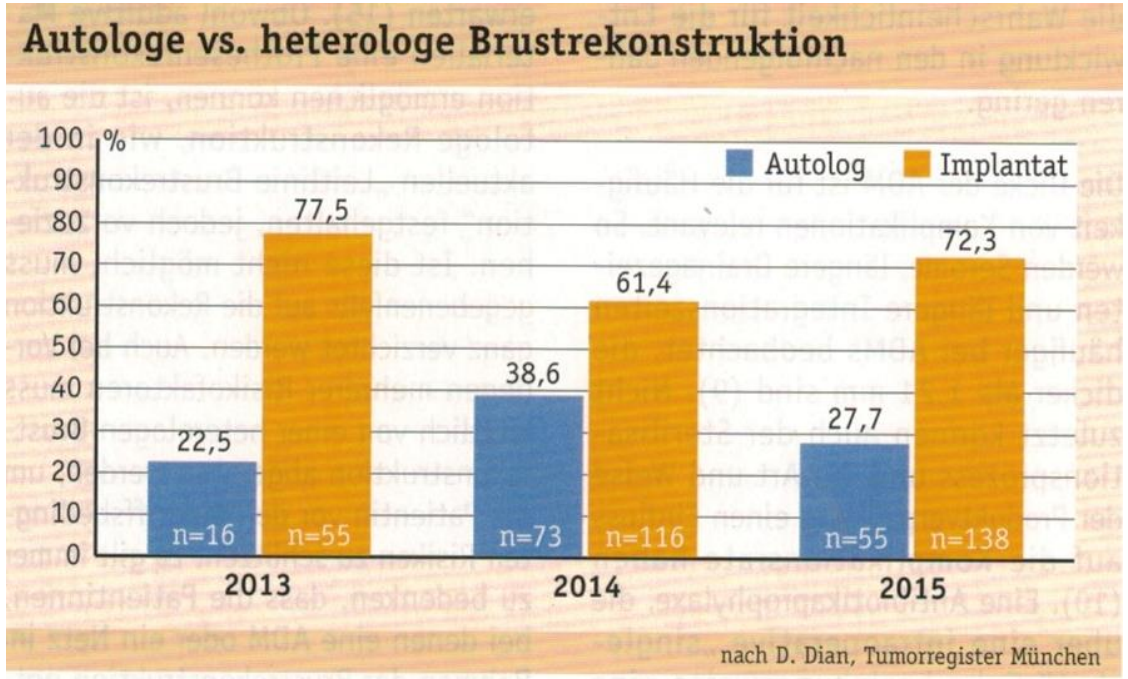


Abb. 2: Entwicklung der Brustrekonstruktionen von 2013 bis 2015

N. O'Halloran et al., BJS Open 2017; 1: 148–157

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Complications in Postmastectomy Breast Reconstruction One-year Outcomes of the Mastectomy Reconstruction Outcomes Consortium (MROC) Study

Eleven sites enrolled women undergoing first time, immediate, or delayed reconstruction following mastectomy for cancer treatment or prophylaxis. Procedures included expander/implant, latissimus dorsi (LD), pedicle transverse rectus abdominis musculocutaneous (PTRAM), free TRAM (FTRAM), and deep inferior epigastric perforator (DIEP) techniques.

Complication rates for 2234 patients were analyzed.

One-year Postoperative Complication Rate by Procedure Type

	Procedure Type					
	Implant (DTI and TE) N = 1615	PTRAM N = 84	Free TRAM N = 97	DIEP N = 365	Lat Dorsi N = 73	P*
Any complication	399 (24.7%)	32 (38.1%)	33 (34.0%)	171 (46.9%)	28 (38.4%)	<0.001
Major complication	291 (18.0%)	25 (29.8%)	23 (23.7%)	107 (29.3%)	13 (17.8%)	0.002
Reconstructive failure	95 (5.9%)	0 (0.0%)	2 (2.1%)	6 (1.6%)	2 (2.7%)	0.002

*P value is computed from the mixed-effects logistic regression model adjusting for sites or Fisher exact test.

Mixed Effects Logistic Regression Model for 1-year Postoperative Any and Major Complication

Predictors	Model 1: Any Complication OR (95% CI)	P	Model 2: Major Complication OR, 95% CI	P
Age group (ref: <35)				
35–45	1.52 (0.94–2.46)	0.091	2.07 (1.10–3.89)	0.024
45–55	1.68 (1.04–2.70)	0.033	2.41 (1.30–4.49)	0.006
55–65	1.96 (1.19–3.25)	0.009	3.01 (1.58–5.75)	0.001
>65	2.30 (1.26–4.20)	0.007	2.84 (1.34–6.01)	0.007
Obesity Class* (ref: Normal)				
Underweight	0.73 (0.29–1.84)	0.508	0.79 (0.27–2.36)	0.677
Overweight	1.13 (0.88–1.45)	0.324	1.26 (0.95–1.68)	0.108
Obese I	1.54 (1.14–2.08)	0.005	1.73 (1.24–2.43)	0.001
Obese II/III	2.29 (1.58–3.32)	<0.001	2.45 (1.64–3.65)	<0.001
Procedure Type (ref: DTI and TE)				
PTRAM	1.89 (1.08–3.30)	0.025	1.86 (1.02–3.40)	0.044
FTRAM	1.94 (1.17–3.23)	0.011	1.57 (0.89–2.76)	0.120
DIEP	2.22 (1.57–3.13)	<0.001	1.75 (1.19–2.58)	0.004
Lat Dorsi	1.95 (1.08–3.51)	0.026	0.98 (0.47–2.02)	0.953
Timing (ref: Delayed)				
Immediate	1.82 (1.11– 2.99)	0.017	1.17 (0.68–2.00)	0.566
Laterality (ref: Unilateral)				
Bilateral	1.52 (1.22–1.89)	<0.001	1.60 (1.25–2.04)	<0.001
Lymph node biopsy (ref: None)				
SLNB	1.08 (0.78–1.50)	0.647	1.23 (0.84–1.79)	0.284
ALND	0.98 (0.67–1.43)	0.922	1.14 (0.75–1.75)	0.541
Charlson Comorbidity Index (ref: ≤1)				
>1	1.43 (1.03–1.99)	0.032	1.77 (1.25–2.51)	0.001
Smoking status (ref: Nonsmoker)				
Previous smoker	1.16 (0.93–1.44)	0.192	1.14 (0.89–1.45)	0.314
Current smoker	1.62 (0.92–2.85)	0.093	1.95 (1.07–3.55)	0.028
Radiation (ref: None)				
Before reconstruction	1.07 (0.76–1.51)	0.713	1.12 (0.76–1.65)	0.561
During/after reconstruction	1.58 (1.18–2.11)	0.002	1.64 (1.19–2.27)	0.003
Chemotherapy (ref: not during/after reconstruction)				
During/after reconstruction	1.00 (0.79–1.27)	0.994	1.13 (0.86–1.4	

Edwin G. Wilkins, Ann Surg. 2018 Jan; 267(1): 164–170

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Warum findet eine einzelne prospektive multizentrische Studie solche Beachtung?

- **Geringe Evidenz aufgrund schlechter Datenlage**

Sofortrekonstruktion durch Implantate:

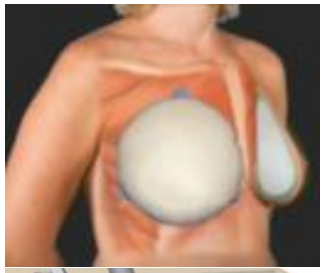
Unzureichende Standardisierung der Vorgehensweise und der Patientinnenselektion

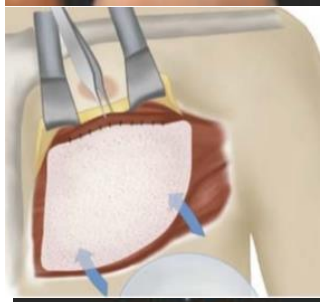
Aktuelle Vorgehensweisen

1. Implantat-Lager

TABLE 1. Classification of Implant Placement in Prosthetic Breast Reconstruction

	Dissection	Advantages	Disadvantages
P0	Complete prepectoral with 360-degree ADM wrap	Reduced postoperative pain No animation deformity More natural look	Requires fat grafting to mask upper implant interface Limited fat donor sites in thin patients Increased cost of using several large pieces of ADM Possible increased risk of implant rotation
P1	Muscle-sparing prepectoral with anterior ADM coverage	Reduced postoperative pain No animation deformity More natural look Superior coverage of the superior implant Long-term implant support	Increased operative time when compared with P0 reconstruction
P2	Superior pectoralis coverage with ADM sling	Improved shape of lower/lateral breast Superior upper-pole implant coverage	Moderate to severe animation deformity Increased postoperative pain Long-term discomfort
P3	Total pectoralis coverage with serratus sling	Superior soft-tissue device coverage	Unnatural shape of breast mound Lack of breast projection and ptosis Increased postoperative pain Extreme limitations in DTI reconstruction Severe animation deformity





Troy A. Pittman et al., Annals of Plastic Surgery • Volume 80, Number 5, May 2018

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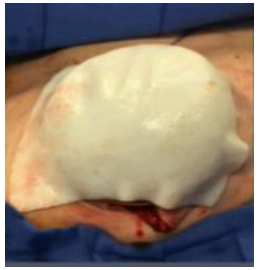
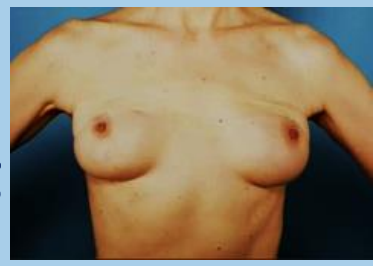


Pro und Contra PO / P1-Methode:

Pro:

- Kleineres operatives Trauma
- Signifikante Reduktion von Schmerzen und Muskelspasmus
- Keine sichtbare Implantat-Verlagerung bei Bewegung
- Natürliche Brustform mit Ptosis
- Mehr Symmetrie zur nicht rekonstruierten Gegenseite



Contra:

- Dünnerer und damit schlechter vaskularisierter Weichteilmantel
- Höheres Risiko für das Sichtbarwerden des Implantates und für ein Rippling im oberen und medialen Brustanteil
- Häufig Lipofilling erforderlich

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PO / P1- versus P2-Methode: Komplikationen

"Comparison of prepectoral and subpectoral breast reconstruction after mastectomies: A systematic review and meta analysis."

METHODS:

PubMed, EMBASE, the Cochrane Library, and Web of Science databases were searched to retrieve studies that compared PBR with SBR after mastectomies. The outcomes were complications, oncological safety, patient-reported outcomes and postoperative pain.

RESULTS:

- 16 comparative studies
- **No statistical differences** in overall complications, implant loss, seroma, nipple or skin flap necrosis, hematoma, reoperation, wound dehiscence, and wound-skin infection, rippling between PBR and SBR.

Li L et al., Eur J Surg Oncol. 2019 Sep;45(9):1542-1550

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PO / P1- versus P2-Methode: Komplikationen

Implant-ADM based breast reconstruction: “A tale of two techniques” and PROMs

BACKGROUND:

- Immediate Implant and ADM based breast reconstruction accounts for 37% of work load, following mastectomy in the UK and is emerging as a viable alternative to tissue based breast reconstructions.
- We present our outcomes of our prospective study in a busy teaching Hospital of *subpectoral* and *prepectoral* IBR with ADM.

METHODS:

- Entire cohort of 255 patients
- 145 patients (57%) with Prepectoral breast reconstruction,110 patients (43%) with Subpectoral breast reconstruction

RESULTS:

- The mean follow up period: 12 months
- The complications between the subgroups were similar and they were comparable to national standards.
- There were no delays to adjuvant treatment in any of our patients.

Krishnamurthy Sreedhar Murthy et al., SABCS 2019

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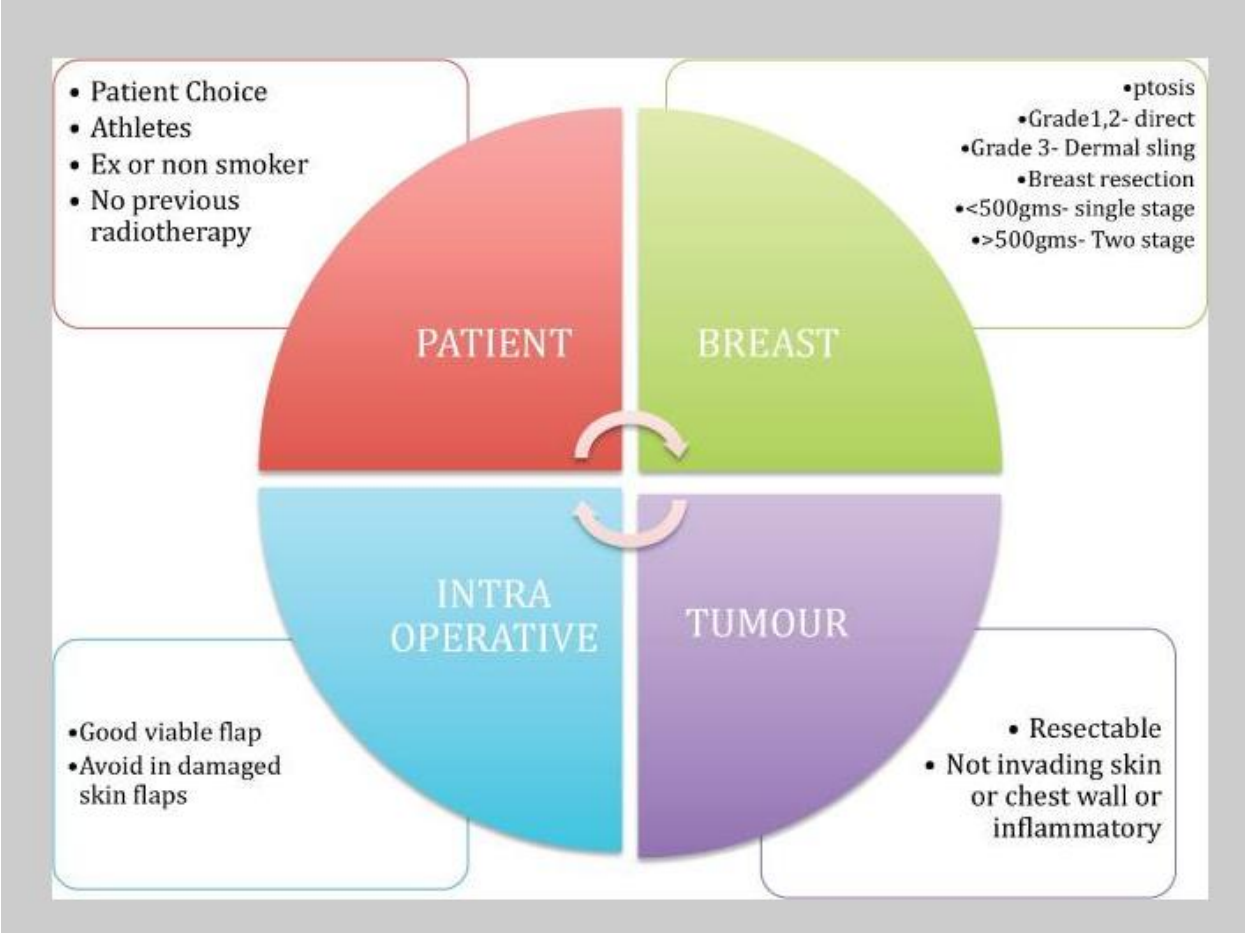
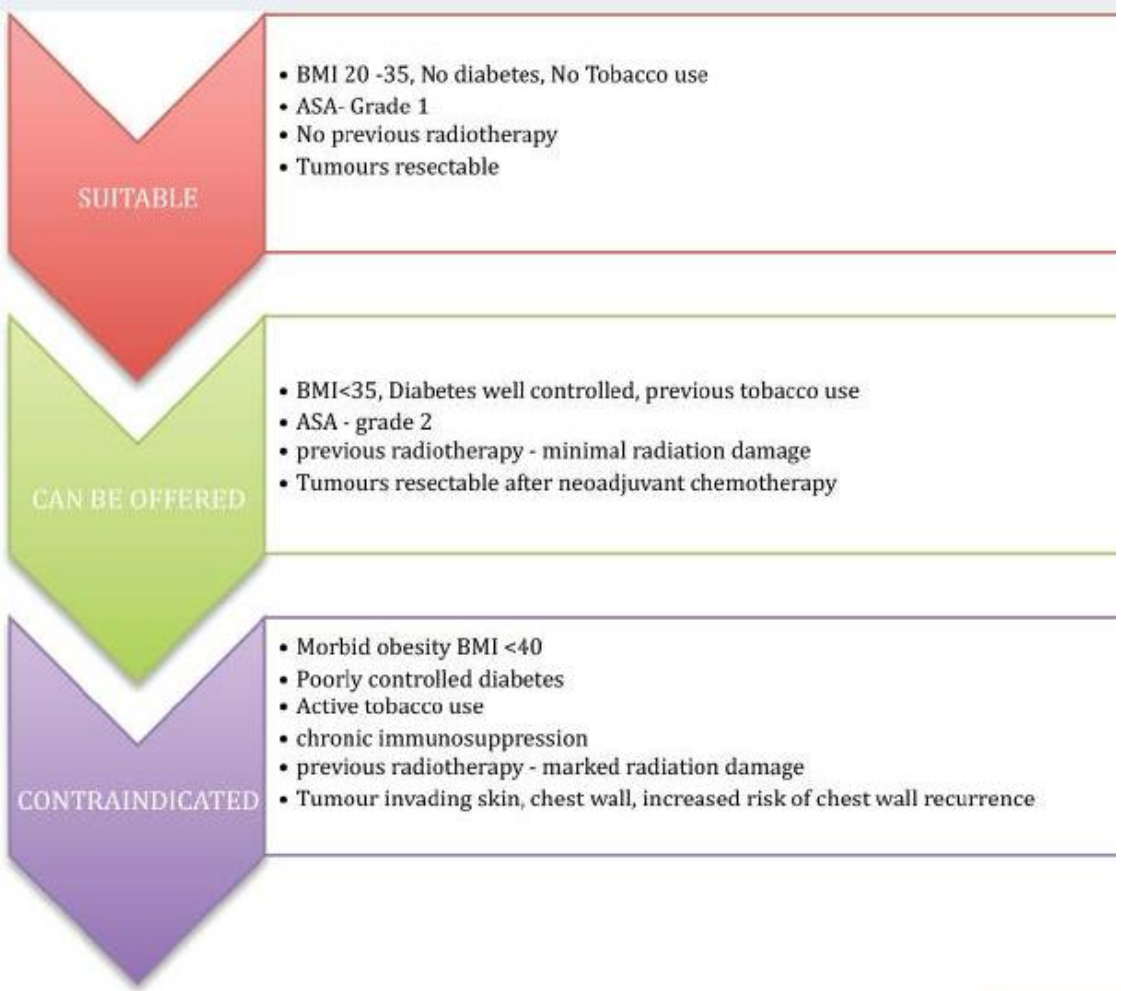
Prepectoral implant-based breast reconstruction: a joint consensus guide from UK, European and USA breast and plastic reconstructive surgeons





Raghavan Vidya et al, Ecancermedicalscience. 2019 May 7;13:927

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Aktuelle Vorgehensweisen

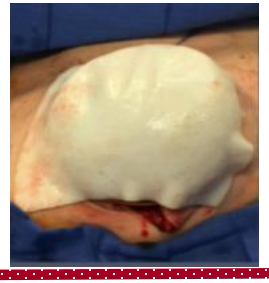
2. Zeitlicher Ablauf

- **Sofortrekonstruktion, 1-Stage:**

Sofortrekonstruktion mit einem endgültigen Implantat

- **Verzögerte Sofortrekonstruktion, 2-Stage:**

Sofortrekonstruktion mit einem Expander,
Wechsel auf ein endgültiges Implantat nach abgeschlossener Wundheilung bzw. nach einer evtl. indizierten Radiatio



Pro und Contra:
Sofortrekonstruktion, 1-Stage

Pro:

- Nur ein Eingriff erforderlich
- Vermeidung der ambulanten Vorstellungen zur Expansion
- Vermeidung von Expander-Komplikationen bei langer Liegezeit im Falle erforderlicher adjuvanter Therapien

Contra:

- Erhöhte postoperative Komplikations-rate bei falscher Selektion der Patientinnen
- Lt. Studien fragl. erhöhte Kapselfibrose-Rate im Falle einer erforderlichen adjuvanten Radiatio

A Systematic Review and Head-to-Head Meta-Analysis of Outcomes following Direct-to-Implant versus Conventional Two-Stage Implant Reconstruction.

A literature search identified all articles published after 1999 involving prosthetic-based breast reconstruction as a two-stage tissue expander/implant or direct-to-implant technique. The primary outcomes of interest, including implant loss, capsular contracture, reoperation, and infection, were analyzed by means of head-to-head meta-analysis. Thirteen studies involving 5216 breast reconstructions were included.

RESULTS:

- Wound infection, seroma, and capsular contracture risk were similar between groups.
- Direct-to-implant reconstruction was associated with a higher risk for skin flap necrosis (OR, 1.43; p = 0.01; I2 = 51 percent) and reoperation (OR, 1.25; p = 0.04; I2 = 43 percent).
- The risk for implant loss was nearly two-fold higher with direct-to-implant reconstruction compared with tissue expander/implant reconstruction (OR, 1.87; p = 0.04; I2 = 33 percent).

Basta MN et al. Plast Reconstr Surg. 2015 Dec;136(6):1135-44,

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Direct-to-Implant versus Two-Stage Tissue Expander/Implant Reconstruction: 2-Year Risks and Patient-Reported Outcomes from a Prospective, Multicenter Study

Of 1427 patients, 99 underwent direct-to-implant reconstruction and 1328 underwent tissue expander/implant reconstruction

Complication Rates Overall and by Procedure Type at 2 Years Postoperatively

	Overall (%)	DTI (%)	TE (%)	p^*
No.	1427	99	1328	
Complication				
Any complication	380 (26.6)	32 (32.3)	348 (26.2)	0.407
Major complication	279 (19.6)	25 (25.3)	254 (19.1)	0.365
Any infection	155 (10.9)	16 (16.2)	139 (10.5)	0.189
Major infection	85 (6)	10 (10.1)	75 (5.7)	0.138
Reconstructive failure	106 (7.4)	8 (8.1)	98 (7.4)	0.879

DTI, direct-to-implant; TE, tissue expander/implant.

*For the comparison of complication rate between procedure types, adjusting for sites (hospitals).

Dhivya R. Srinivasa et al., Plast Reconstr Surg. 2017 Nov; 140(5): 869–877

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Sofortrekonstruktion durch Implantate:

Unzureichende Standardisierung der verwendeten Materialien

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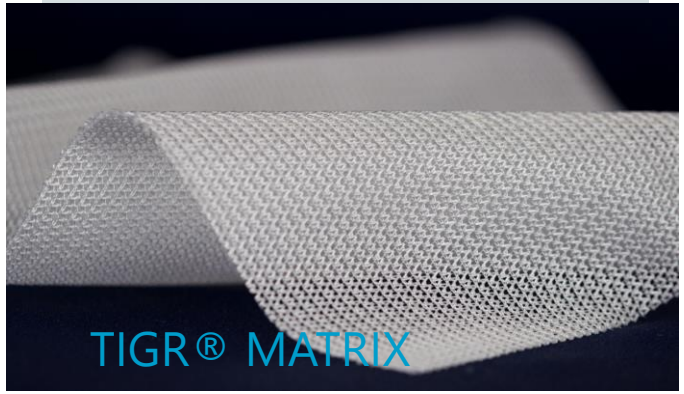
Materialien

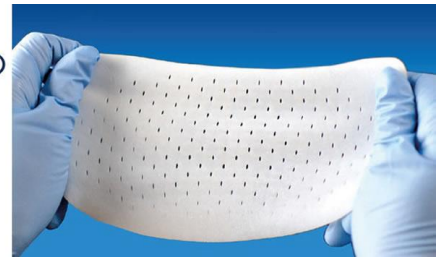
µCT Epiflex

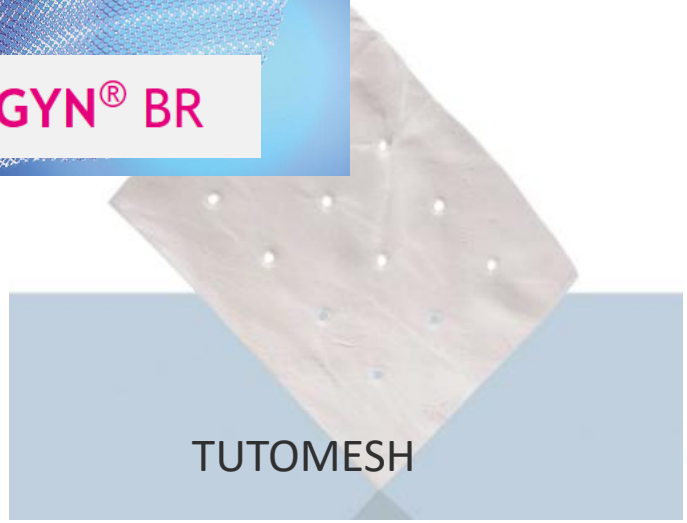
TiLOOP® Bra



SurgiMend®

Certified Non Irritant
Rich in Type III Collagen
Foetal Bovine ADM





TUTOMESH

Benefits and risks with acellular dermal matrix (ADM) and mesh support in immediate breast reconstruction: a systematic review and metaanalysis

Fifty-one studies were eligible and included in the review. The certainty of evidence for overall complication rate and implant loss is low. The certainty of evidence for delay of adjuvant treatment, implant loss, infection, capsular contraction and aesthetic outcome is very low. No study reported data on recurrence of cancer or health related quality of life. In conclusion, there is a lack of high quality studies that compare the use of matrix with no matrix in immediate breast reconstruction. Specifically, there are no data on risk of recurrence of cancer, delay of adjuvant treatment and Health related quality of life (HRQoL). In addition, there is a risk of bias in many studies. It is often unclear what complications have been included and how they have been diagnosed, and how and when capsular contracture and aesthetic outcome have been evaluated. Controlled trials that further analyse the impact of radiotherapy, type of matrix and type of procedure (one or two stages) are necessary.

Study or Subgroup	ADM Events	ADM Total	no ADM Events	no ADM Total	Weight	Risk Ratio M-H, Random, 95% CI	Year
1.5.1 Biological mesh							
Anthony 2010	35	153	360	2910	10.9%	1.85 [1.36, 2.51]	2010
Vardanian 2011	61	208	52	129	11.0%	0.73 [0.54, 0.98]	2011
Colwell 2011	50	331	31	158	10.0%	0.77 [0.51, 1.16]	2011
Seth 2012	37	199	56	393	10.2%	1.30 [0.89, 1.91]	2012
Collis 2012	20	106	5	68	5.4%	2.57 [1.01, 6.51]	2012
Israeli Ben-Noon 2013	8	24	3	23	3.9%	2.56 [0.77, 8.46]	2013
Ganske 2013	39	106	5	73	5.7%	5.37 [2.22, 12.98]	2013
Forsberg 2014	19	58	44	125	9.6%	0.93 [0.60, 1.44]	2014
Potter 2015	12	31	6	15	6.6%	0.97 [0.45, 2.07]	2015
Clarke-Pearson 2016	62	465	26	217	9.7%	1.11 [0.72, 1.71]	2016
Subtotal (95% CI)		**1681**		**4111**	**83.1%**	**1.31 [0.94, 1.81]**	
Total events	343		588				
Heterogeneity: Tau² = 0.19; Chi² = 40.36, df = 9 (P < 0.00001); I² = 78%							
Test for overall effect: Z = 1.61 (P = 0.11)							
1.5.2 Synthetic mesh							
Endress 2012	11	49	16	123	7.2%	1.73 [0.86, 3.45]	2012
Meyer Ganz 2015	38	112	19	46	9.7%	0.82 [0.53, 1.26]	2015
Subtotal (95% CI)		**161**		**169**	**16.9%**	**1.13 [0.55, 2.34]**	
Total events	49		35				
Heterogeneity: Tau² = 0.19; Chi² = 3.23, df = 1 (P = 0.07); I² = 69%							
Test for overall effect: Z = 0.33 (P = 0.74)							
Total (95% CI)		**1842**		**4280**	**100.0%**	**1.27 [0.95, 1.69]**	
Total events	392		623				
Heterogeneity: Tau² = 0.17; Chi² = 44.09, df = 11 (P < 0.00001); I² = 75%							
Test for overall effect: Z = 1.63 (P = 0.10)							
Test for subgroup differences: Chi² = 0.13, df = 1 (P = 0.72), I² = 0%							

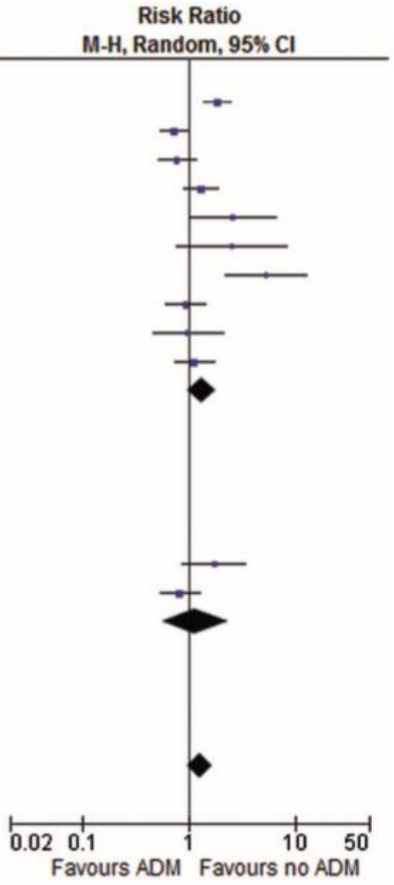


Figure 2. Meta-analysis of studies comparing matrix versus no matrix. Unit of analysis: Breast. Outcome: Complications.

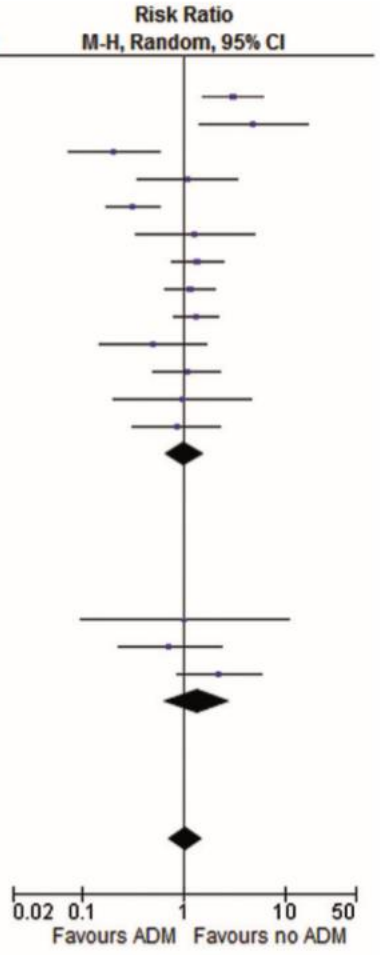
Komplikationen

Håkan Hallberg, Journal of Plastic Surgery and Hand Surgery 2018, 52:3, 130-147

Brustzentrum Köln-Hohenlind

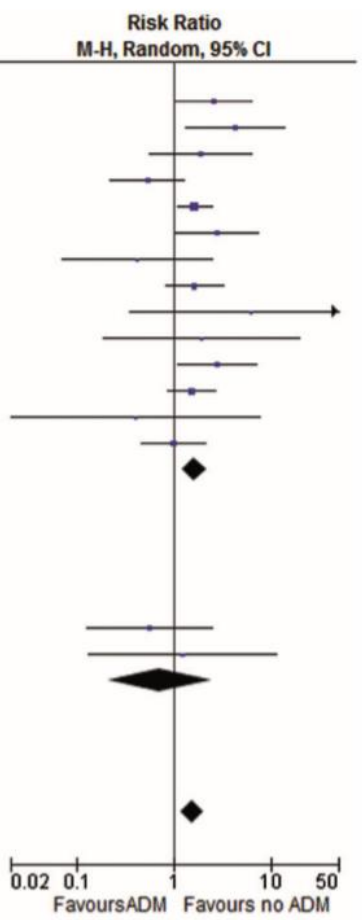
Benefits and risks with acellular dermal matrix (ADM) and mesh support in immediate breast reconstruction: a systematic review and metaanalysis

Study or Subgroup	ADM Events	ADM Total	no ADM Events	no ADM Total	Weight	Risk Ratio M-H, Random, 95% CI	Year
1.1.1 Biological mesh							
Anthony 2010	9	153	55	2910	7.9%	3.11 [1.57, 6.18]	2010
Nguyen 2010	6	75	4	246	5.1%	4.92 [1.43, 16.98]	2010
Colwell 2011	5	331	11	148	6.0%	0.20 [0.07, 0.57]	2011
Liu 2011	7	266	5	204	5.6%	1.07 [0.35, 3.33]	2011
Peled 2011	20	360	16	90	8.3%	0.31 [0.17, 0.58]	2011
Collis 2012	6	106	3	68	4.7%	1.28 [0.33, 4.96]	2012
Parks 2012	40	346	14	165	8.5%	1.36 [0.76, 2.43]	2012
Seth 2012	17	199	29	393	8.5%	1.16 [0.65, 2.06]	2012
Davila 2013	18	1717	59	7447	8.8%	1.32 [0.78, 2.24]	2013
Forsberg 2014	3	58	13	125	5.2%	0.50 [0.15, 1.68]	2014
Liu 2014	16	262	10	177	7.4%	1.08 [0.50, 2.33]	2014
Potter 2015	4	31	2	15	3.9%	0.97 [0.20, 4.71]	2015
Sbitany 2016	6	89	9	113	6.2%	0.85 [0.31, 2.29]	2016
Subtotal (95% CI)		**3993**		**12101**	**86.1%**	**1.02 [0.65, 1.58]**	
Total events	157		230				
Heterogeneity: Tau² = 0.44; Chi² = 43.52, df = 12 (P < 0.0001); I² = 72%							
Test for overall effect: Z = 0.08 (P = 0.94)							
1.1.2 Synthetic mesh							
Endress 2012	1	123	2	249	2.2%	1.01 [0.09, 11.05]	2012
Meyer Ganz 2015	7	112	4	46	5.4%	0.72 [0.22, 2.34]	2015
Bardelli 2016	8	70	7	136	6.4%	2.22 [0.84, 5.87]	2016
Subtotal (95% CI)		**305**		**431**	**13.9%**	**1.35 [0.63, 2.88]**	
Total events	16		13				
Heterogeneity: Tau² = 0.04; Chi² = 2.16, df = 2 (P = 0.34); I² = 7%							
Test for overall effect: Z = 0.77 (P = 0.44)							
Total (95% CI)		**4298**		**12532**	**100.0%**	**1.05 [0.71, 1.56]**	
Total events	173		243				
Heterogeneity: Tau² = 0.39; Chi² = 46.16, df = 15 (P < 0.0001); I² = 68%							
Test for overall effect: Z = 0.24 (P = 0.81)							
Test for subgroup differences: Chi² = 0.39, df = 1 (P = 0.53), I² = 0%							



Meta-analysis of studies comparing matrix versus no matrix. Unit of analysis: Breast. Outcome: Implant loss. **Implantatverlust**

Study or Subgroup	ADM Events	ADM Total	no ADM Events	no ADM Total	Weight	Risk Ratio M-H, Random, 95% CI	Year
1.3.1 Biological mesh							
Anthony 2010	5	153	37	2910	7.2%	2.57 [1.02, 6.45]	2010
Chun 2010	24	269	3	146	4.8%	4.34 [1.33, 14.18]	2010
Nguyen 2010	4	75	7	246	4.7%	1.87 [0.56, 6.23]	2010
Colwell 2011	10	331	9	158	7.6%	0.53 [0.22, 1.28]	2011
Peled 2011	25	90	61	360	18.4%	1.64 [1.09, 2.46]	2011
Liu 2011	18	266	5	204	6.6%	2.76 [1.04, 7.31]	2011
Vardanian 2011	2	208	3	129	2.3%	0.41 [0.07, 2.44]	2011
Seth 2012	14	199	17	393	10.8%	1.63 [0.82, 3.23]	2012
Ganske 2013	4	106	0	73	0.9%	6.22 [0.34, 113.88]	2013
Israeli Ben-Noon 2013	2	24	1	23	1.4%	1.92 [0.19, 19.73]	2013
Forsberg 2014	9	58	7	125	6.9%	2.77 [1.09, 7.07]	2014
Liu 2014	31	288	18	252	13.8%	1.51 [0.86, 2.63]	2014
Potter 2015	0	15	2	31	0.9%	0.40 [0.02, 7.85]	2015
Clarke-Pearson 2016	19	465	9	217	9.1%	0.99 [0.45, 2.14]	2016
Subtotal (95% CI)		**2547**		**5267**	**95.3%**	**1.61 [1.20, 2.15]**	
Total events	167		179				
Heterogeneity: Tau² = 0.08; Chi² = 17.89, df = 13 (P = 0.16); I² = 27%							
Test for overall effect: Z = 3.17 (P = 0.002)							
1.3.2 Synthetic mesh							
Endress 2012	2	49	9	123	3.2%	0.56 [0.12, 2.49]	2012
Meyer Ganz 2015	3	112	1	46	1.5%	1.23 [0.13, 11.54]	2015
Subtotal (95% CI)		**161**		**169**	**4.7%**	**0.71 [0.21, 2.47]**	
Total events	5		10				
Heterogeneity: Tau² = 0.00; Chi² = 0.33, df = 1 (P = 0.56); I² = 0%							
Test for overall effect: Z = 0.53 (P = 0.59)							
Total (95% CI)		**2708**		**5436**	**100.0%**	**1.55 [1.17, 2.05]**	
Total events	172		189				
Heterogeneity: Tau² = 0.07; Chi² = 19.78, df = 15 (P = 0.18); I² = 24%							
Test for overall effect: Z = 3.02 (P = 0.003)							
Test for subgroup differences: Chi² = 1.56, df = 1 (P = 0.21), I² = 35.7%							



Meta-analysis of studies comparing matrix versus no matrix. Unit of analysis: Breast. Outcome: Infection. **Infektion**

Brustzentrum Köln-Hohenlind

Håkan Hallberg, Journal of Plastic Surgery and Hand Surgery 2018, 52:3, 130-147

Mesh versus acellular dermal matrix in immediate implant-based breast reconstruction – A prospective randomized trial

This prospective, randomized, controlled, multicenter pilot study was performed at four Austrian breast cancer centers. Fifty patients with oncologic or prophylactic indication for mastectomy and IBBR were randomized to immediate IBBR with either an ADM (Protexa®) or a titanized mesh (TiLOOP® Bra).

- **Overall complication rate: 31.25% with similar rates in both groups (Protexa® group: 9 versus TiLOOP® Bra group: 6; p = 0.188).**
- **Higher incidence of severe complications leading to failed reconstructions with implant loss in the Protexa® group than in the TiLOOP® Bra group (7 versus 2; p < 0.0001).**
- **An inverted T-incision technique led to significantly more complications and reconstructive failure with Protexa® (p = 0.037, p = 0.012, respectively).**

D. Gschwantler-Kaulich et al., (EJSO), Volume 42, 5/2016, 665-6

Brustzentrum Köln-Hohenlind

Warum gibt es so viele gerichtliche Auseinandersetzungen wegen fehlgeschlagener Implantat-Sofortrekonstruktionen?

- ***Hohe Komplikationsrate***
- ***Nicht ausreichende Aufklärung über die Risiken***

Sofortrekonstruktion durch Implantat:

Frühe Komplikationsrate

Brustzentrum
Köln-Hohenlind

iBRA - Studie

Potter *et al. Pilot and Feasibility Studies* (2016) 2:41
DOI 10.1186/s40814-016-0085-8

Pilot and Feasibility Studies

STUDY PROTOCOL Open Access

The iBRA (implant breast reconstruction evaluation) study: protocol for a prospective multi-centre cohort study to inform the feasibility, design and conduct of a pragmatic randomised clinical trial comparing new techniques of implant-based breast reconstruction

Shelley Potter[1*], Elizabeth J. Conroy[2], Paula R. Williamson[2], Steven Thrush[3], Lisa J. Whisker[4], Joanna M Skillman[5], Nicola L. P. Barnes[6], Ramsey I. Cutress[7,8], Elizabeth M. Teasdale[9], Nicola Mills[1], Senthurun Mylvaganam[10], Olivier A. Branford[11], Katherina McEvoy[12], Abhilash Jain[13,14], Matthew D. Gardiner[13,14], Jane M. Blazeby[1], Christopher Holcombe[9] and on behalf of the Breast Reconstruction Research Collaborative

Abstract

Background: Implant-based breast reconstruction (IBBR) is the most commonly performed reconstructive procedure in the UK. The introduction of techniques to augment the subpectoral pocket has revolutionised the procedure, but there is a lack of high-quality outcome data to describe the safety or effectiveness of these techniques. Randomised controlled trials (RCTs) are the best way of comparing treatments, but surgical RCTs are challenging. The iBRA (implant breast reconstruction evaluation) study aims to determine the feasibility, design and conduct of a pragmatic RCT to examine the effectiveness of approaches to IBBR.

Methods/design: The iBRA study is a trainee-led research collaborative project with four phases:

Phase 1 – a national practice questionnaire (NPQ) to survey current practice
Phase 2 – a multi-centre prospective cohort study of patients undergoing IBBR to evaluate the clinical and patient-reported outcomes
Phase 3– an IBBR-RCT acceptability survey and qualitative work to explore patients' and surgeons' views of proposed trial designs and candidate outcomes.
Phase 4 – phases 1 to 3 will inform the design and conduct of the future RCT

(Continued on next page)

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iBRA - Studie

Ergebnisse Phase 1

Highlights

- Implant breast reconstruction (IBBR) and the range of techniques is poorly evidence based.
- We aimed to explore the current practice of IBBR in the UK to inform the design of a future definitive study.
- Significant variation was demonstrated in the availability of techniques and patient selection for IBBR.
- There is a need for well-designed studies to establish best practice and improve outcomes for patients considering IBBR.

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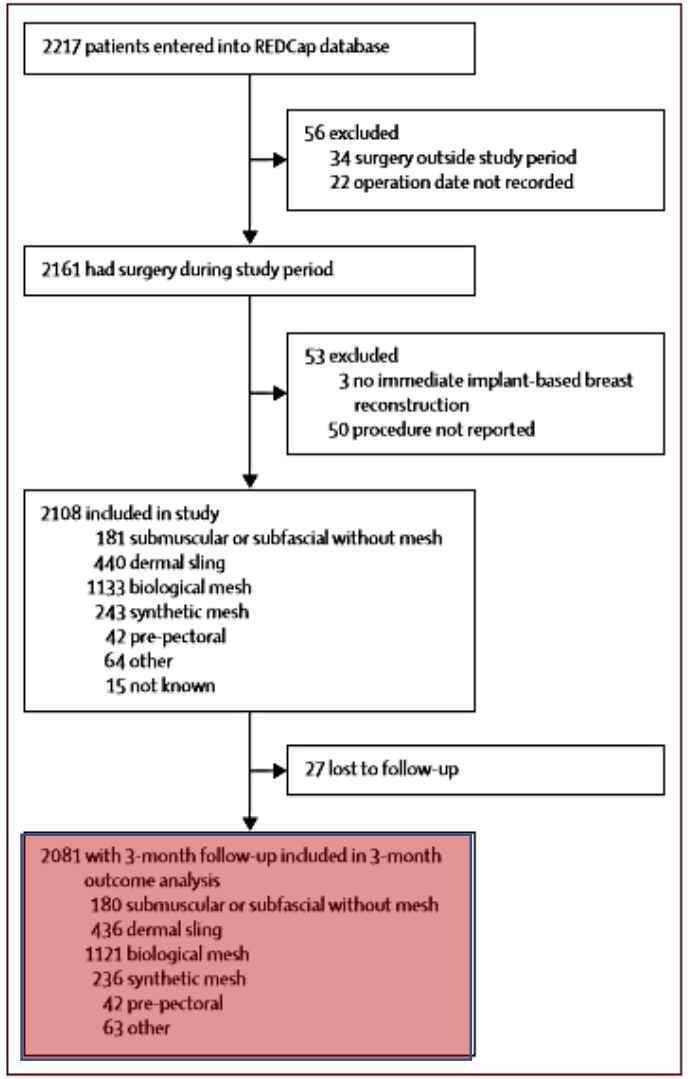
Short-term safety outcomes of mastectomy and immediate implant-based breast reconstruction with and without mesh (iBRA, phase 2): a multicentre, prospective cohort study

In this **prospective, multicentre cohort study**, women aged 16 years or older who had any type of immediate implant-based breast reconstruction for malignancy or risk reduction, with any technique, at **81 participating breast and plastic surgical units in the UK** were consecutively recruited

Outcomes of interest up to 3 months after reconstruction:

- implant loss (defined as unplanned removal of the expander or implant)
- infection requiring treatment with antibiotics or surgery
- unplanned return to theatre
- unplanned re-admission to hospital for complications of reconstructive surgery



Shelley Potter et al., Lancet Oncol 2019; 20: 254–66

Brustzentrum Köln-Hohenlind

Short-term safety outcomes of mastectomy and immediate implant-based breast reconstruction with and without mesh (iBRA): a multicentre, prospective cohort study

	All patients in iBRA with 3-month follow-up (n=2081)	Submuscular or fascial (n=180)	Dermal sling (n=436)	Biological mesh (n=1121)	Synthetic mesh (n=236)	Pre-pectoral (n=42)	Other (n=63)	Not known (n=11)	NMBRA outcomes at 3 months	National Quality Criteria for Breast Reconstruction*
Reoperation	370; 18% (16–20)	30; 17% (12–23)	79; 18% (15–22)	193; 17% (15–20)	48; 20% (15–26)	9; 21% (10–37]	9; 14% (7–25)	2	5%	<5%
Re-admission	372; 18% (16–20)	31; 17% (12–24)	85; 19% (16–24)	185; 17% (14–19)	49; 21% (16–27)	10; 24% (12–40)	10; 16% (8–27)	2	16%	<5%
Infection	522; 25%, (23–27)	39; 22% (16–28)	138; 32% (27–36)	251; 22% (20–25)	61; 26% (20–32)	11; 26% (14–42)	19; 30% (19–43)	3	25%	<10%†
Implant loss	182; 9% (8–10)	17; 9% (6–15)	47; 11% (8–14)	90; 8% (7–10)	24; 10% (7–15)	3; 7% (2–20)	2; 3% (0–11)	1	9%	<5%

Data are n; % (95% CI), n, or %. NMBRA=National Mastectomy and Breast Reconstruction Audit. *Oncoplastic Breast Reconstruction—Guidelines for Best Practice. †Acellular dermal matrix-assisted breast reconstruction procedures: joint guidelines from the Association of Breast Surgery and the British Association of Plastic, Reconstructive and Aesthetic Surgeons. There were 2108 patients with implant-based reconstruction, of whom 2081 (99%) were included in the outcome analysis: complete outcome data (event data for all four key outcomes) are available for 2078 patients , who have been included in the analysis 27 (1%) patients have no outcome data and were excluded from the analysis. Partial outcome data (event data for three of four outcomes) are available for three patients, who were included in the analysis and who were assumed to not have had the event for the fourth missing outcome.

Table 4: **3-month outcomes after implant-based breast reconstruction, by procedure type, compared with outcomes in NMBRA and UK National Quality Criteria for Breast Reconstruction**

Shelley Potter et al., Lancet Oncol 2019; 20: 254–66

Brustzentrum Köln-Hohenlind

Immediate Implant-Based Breast Reconstruction Using a Titanium-Coated Polypropylene Mesh (TiLoop® Bra): Complication Rates And Risk Factors In a Single-Institution Experience.

Delmond L, Sire F, Thezenas S, Rouanet P, Colombo P, Mourregot A, Gutowski M
ICM Montpellier France – Univ Montpellier, Montpellier France.

San Antonio Breast Cancer Symposium® - December 10-14, 2019

BACKGROUND

Immediate implant reconstruction after a skin sparing or a nipple sparing mastectomy is an attractive option made easier by the use of mesh to cover the lower implant pole. A titanium-coated polypropylene mesh (TCPM) is an alternative to acellular dermal matrices but only few clinical data have been published.

OBJECTIVE

In this retrospective single-institution series we report short term outcomes and surgical complications in patients with skin sparing or nipple sparing mastectomy and immediate implant reconstruction using TCPM (TiLoop® Bra).

METHODS

321 mastectomies in 258 patients were included. TiLoop® Bra was used in its standard sling fashion for a retropectoral implant positionning. Univariate and multivariable logistic regression analyses were performed to evaluate the predictive character of patients and procedure-related characteristics on surgical complications.

Demographic and clinical characteristics of patients

Age [years, med (range)]	52.4 (25,1-84)
BMI [kg/m², med (range)] - BMI ≤ 25 [n,(%)] - BMI > 25 [n,(%)]	23,2 (16,5 – 56,4) 178 (69,3%) 79 (30,7%)
Smokers [n,(%)]	64 (24,8%)
Previous radiotherapy [n,(%)]	69 (21,6%)
Neoadjuvant treatment [n,(%)] - chemoherapy - chemotherapy + radiotherapy	 12 (3,7%) 2 (0,6%)

Baseline characteristics of the surgeries

Prophylactic mastectomy [n,(%)] **Curative mastectomy** [n,(%)] - first treatment - local relapse with previous radiotherapy - local relapse without previous radiotherapy.	112 (34,9%) 161 (50,2%) 44 (13,7%) 4 (1,2%)
Skin Incision [n,(%)] - small elliptical (patey incision) - external radial incision - periareolar - skin reducing mastectomy (+ LCDI*) - infra mammary fold	 204 (63,6%) 70 (21,8%) 7 (2,2%) 28 (8,7%) 12 (3,7%)
Nipple sparing mastectomy [n,(%)]	89 (27,7%)
Cutaneous abdominal flap [n,(%)]	56 (17,4%)
Drainage duration [day, med (range)]	10 (2-27)

The overall complication rate was 33,6%

Only 8 patients had a delay to their adjuvant treatment.

Surgical complications

Delayed wound healing [n,(%)]	62 (19,3%)
Skin ischemia / necrosis [n,(%)]	11 (3,4%)
Nipple areola complex necrosis [n,(%)]	11 (3,4%)
Infection [n,(%)] - conservative treatment (antibiotherapy only) - implant removal - implant replacement by expander	31 (9,7%) 13 (4%) 14 (4.4%) 4 (1.2%)
Infection + delayed wound healing [n,(%)] - implant removal - implant replacement by expander	16 (5%) 8 (2.5%) 3 (0.9%)
Hematoma [n,(%)]	15 (4,7%)
Seroma [n,(%)]	19 (5,9%)
Major complication [n,(%)] - implant removal - Implant replacement by expander	27 (8,5%) 22 (6,8%) 5 (1,6%)

- 50% of infection were associated with delayed wound healing
- 61% of implant removal or replacement for infection had also delayed wound healing

San Antonio Breast Cancer Symposium - December 10-14, 2019

AGAPLESION MARKUS KRANKENHAUS

Prepectoral direct to implant reconstruction following nipple sparing mastectomy using the TiLOOP® Bra Pocket

M. Thill[1], V. van Haasteren[1], K. Kelling[1]

1. Department of Gynecology and Gynecologic Oncology, Agaplesion Markus Hospital, Frankfurt, Germany,

BREAST NET

pfmmedical Quality and Experience

Material and methods

Between October 2017 and February 2019, 57 patients underwent nipple sparing mastectomy in the certified breast cancer centre, at the AGAPLESION Markus Hospital, Frankfurt, Germany. Data was collected in a prospective registry. All of the patients underwent a prepectoral direct to implant reconstruction using the new TiLOOP® Bra Pocket, that exists in three different sizes. We present the first analysis of this prospective unicentric registry. To measure and to analyse the cosmetic outcome and patients' satisfaction, the BREAST-Q questionnaire was used, an established modular questionnaire to assess patient reported outcome (PRO).

Results

All of the 72 patients were available for postoperative analysis. In 41/72 (56%) of the cases a seroma occured and was worth to be punctured. The median number of punctures was 4 (average volume: 70 ml). Drain was removed after 10 days. 7/72 had a postoperative hematoma and had to undergo another surgical procedure. 3/72 developed a skin necrosis or severe wound healing problem due to bad quality of the soft tissue and skin mantle and had to undergo implant explantation. 1/72 suffered from implant infection but could be treated conservatively. The analysis of patients' reported outcome via the BREAST-Q resulted in a high satisfaction rate regarding the cosmetic outcome.

10%

4%

14%

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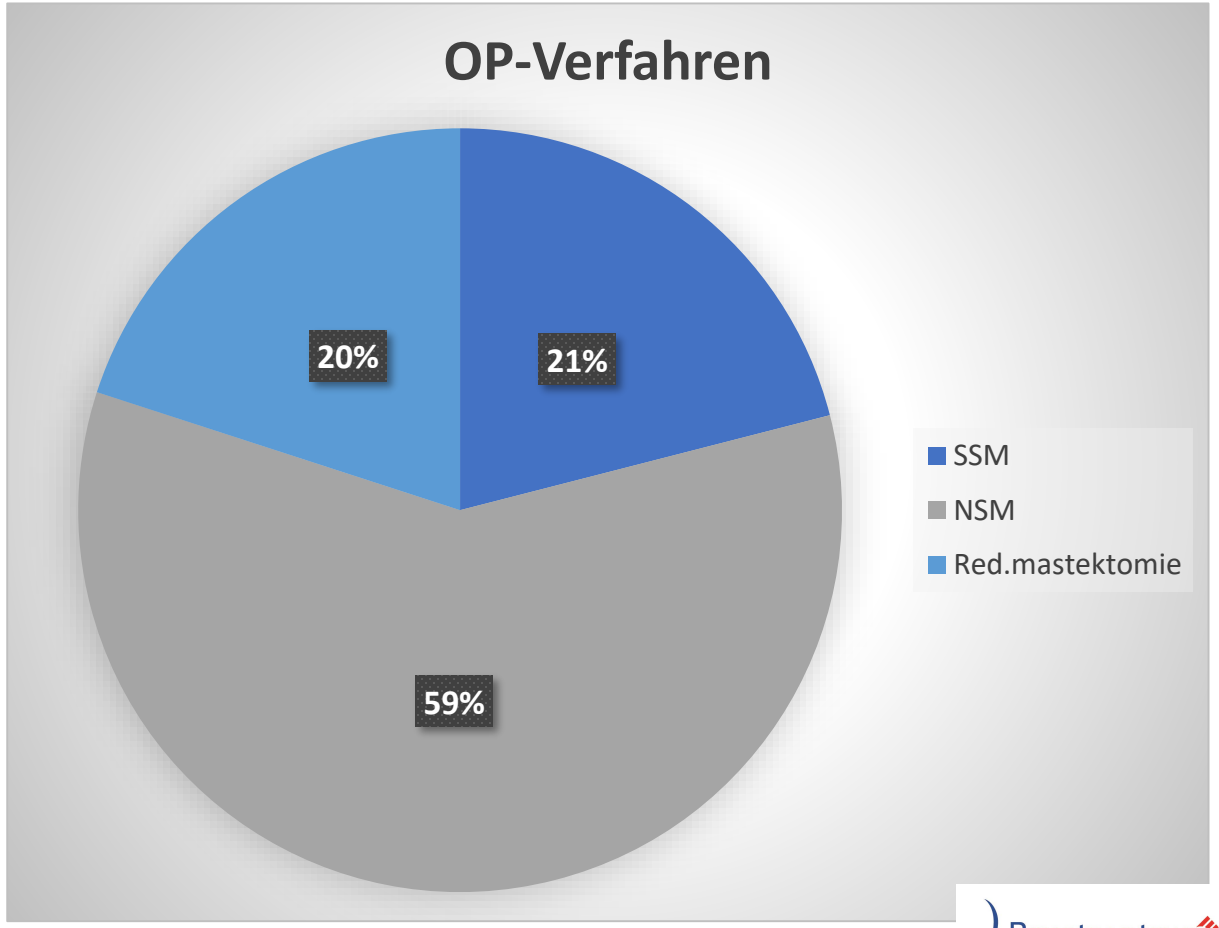
Ergebnisse Sofortrekonstruktion
Hohenlind 1-2018 / 10-2019

Retrospektive Analyse von
88 Patientinnen bzw. 100 Sofortrekonstruktionen

Primäre Operationen	61 (61%)
Sekundäre Operationen	39 (39%)
Epipectoral	72 (72%)
Retropectoral	18 (18%)
ADM	55 (55%)
Titannetz	17 (17%)
Kein Mesh	28 (28%)



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Ergebnisse Sofortrekonstruktion
Hohenlind 1-2018 / 10-2019

Komplikationsrate 28%

Implantatverlust	7 (7%) in 6 Fällen durch eine allschichtige Nekrose mit Sekundärinfekt
Nekrose	9 (9%)
Infektion	12 (12%)
Serom	12 (12%)

Brustzentrum Köln-Hohenlind

Sofortrekonstruktion durch Implantat:

Risikofaktoren

Brustzentrum
Köln-Hohenlind

Short-term safety outcomes of mastectomy and immediate implant-based breast reconstruction with and without mesh (iBRA): a multicentre, prospective cohort study

	Implant loss (n=1722)	Infection (n=1722)	Re-admission (n=1722)	Reoperation (n=1722)
Age, years*	1·00 (0·98–1·02); p=0·87	1·01 (1·00–1·02); p=0·27	1·00 (0·99–1·01); p= 0·77	0·99 (0·98–1·01); p=0·35
Body-mass index (kg/m²)†	1·07 (1·03–1·11); p=0·0002	1·07 (1·04–1·10); p<0·0001	1·05 (1·03–1·08); p=0·0001	1·04 (1·01–1·07); p=0·0032
Operative time, min	1·00 (1·00–1·01); p=0·049	1·00 (1·00–1·00); p=0·073	1·00 (1·00–1·00); p=0·049	1·00 (1·00–1·01); p=0·013
Smoking				
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1·92 (1·19–3·09); p=0·0074	1·53 (1·09–2·17); p=0·015	1·92 (1·33–2·77); p=0·0005	1·87 (1·30–2·70); p=0·0008
Previous radiotherapy to ipsilateral breast				
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1·35 (0·70–2·60); p=0·37	1·72 (1·12–2·62); p=0·013	1·15 (0·69–1·91); p=0·59	1·24 (0·75–2·03); p=0·41
Neoadjuvant chemotherapy				
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	0·64 (0·33–1·21); p=0·17	0·72 (0·48–1·08); p=0·11	0·82 (0·53–1·28); p=0·38	0·73 (0·47–1·15); p=0·18
Bilateral surgery				
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1·72 (0·85–3·47); p=0·13	1·27 (0·81–1·97); p=0·30	1·24 (0·76–2·03); p=0·39	1·15 (0·70–1·90); p=0·58
Nipple-sparing mastectomy				
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1·24 (0·80–1·92); p=0·33	1·09 (0·82–1·46); p=0·55	1·04 (0·75–1·44); p=0·81	1·20 (0·88–1·64); p=0·25
Risk-reducing surgery				
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	0·87 (0·37–2·06); p=0·75	0·87 (0·48–1·56); p=0·64	1·13 (0·59–2·14); p=0·71	1·28 (0·68–2·41); p=0·45

Table 5: Logistic regression of risk factors for key outcomes

Shelley Potter et al., Lancet Oncol 2019; 20: 254–66

Brustzentrum Köln-Hohenlind

Short-term safety outcomes of mastectomy and immediate implant-based breast reconstruction with and without mesh (iBRA): a multicentre, prospective cohort study

	Implant loss (n=1722)	Infection (n=1722)	Re-admission (n=1722)	Reoperation (n=1722)
Therapeutic mastectomy				
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	1·36 (0·69–2·69); p=0·38	0·80 (0·49–1·29); p=0·36	0·92 (0·55–1·54); p=0·74	1·11 (0·67–1·84); p=0·68
Fixed-volume implant				
No	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Yes	0·87 (0·60–1·26); p=0·46	0·92 (0·72–1·16); p=0·46	0·86 (0·66–1·13); p=0·27	0·90 (0·69–1·18); p=0·45
Type of IBBR				
Biological mesh	1 (ref)	1 (ref)	1 (ref)	1 (ref)
Dermal sling	0·85 (0·52–1·38); p=0·50	1·21 (0·89–1·64); p=0·22	0·91 (0·64–1·30); p=0·60	0·85 (0·59–1·22); p=0·38
Other	0·17 (0·02–1·25); p=0·082	1·34 (0·73–2·46); p=0·34	0·82 (0·39–1·74); p=0·60	0·80 (0·38–1·70); p=0·56
Pre-pectoral	0·91 (0·20–4·04); p=0·90	1·02 (0·39–2·66); p=0·96	1·92 (0·76–4·82); p=0·17	1·37 (0·52–3·60); p=0·52
Submuscular or fascial	1·06 (0·55–2·08); p=0·86	0·89 (0·56–1·41); p=0·63	1·03 (0·63–1·70); p=0·90	1·00 (0·61–1·63); p=0·98
Synthetic mesh	1·12 (0·66–1·90); p=0·68	1·13 (0·79–1·61); p=0·50	1·20 (0·81–1·78); p=0·37	1·09 (0·74–1·62); p=0·66

Data are odds ratio (95% CI); p value. IBBR=immediate implant-based breast reconstruction. *Increase in odds for each additional year. †Increase in odds for each additional body-mass index unit.

Table 5: Logistic regression of risk factors for key outcomes

Shelley Potter et al., Lancet Oncol 2019; 20: 254–66

Brustzentrum Köln-Hohenlind

Delmond L, Sire F, Thezenas S, Rouanet P, Colombo P, Mourregot A, Gutowski M
ICM Montpellier France – Univ Montpellier, Montpellier France.

San Antonio Breast Cancer Symposium® - December 10-14, 2019

RESULTS

The overall complication rate was 33,6%

Only 8 patients had a delay to their adjuvant treatment.

Univariate analysis :

- **Risk factor for major complication** : smoking, high breast weight and implant infection occurrences.
- **Risk factor for any surgical complication** : smoking, high breast and implant weight.
- **Risk factor for implant infection** : smoking, high breast and implant weight and drainage duration.
- **Risk factor for delayed wound healing :** skin reducing mastectomy and periareloar incision, smoking, high breast and implant weight.
  Realization of a CAF* was a protective factor.

Multivariable analysis

- **Risk factor for surgical complication** : smoking, high breast weight and skin reducing mastectomy.
- **Risk factor for major complication** : smoking, implant infection, high breast weight and previous radiotherapy but skin reducing mastectomy and external radial incision were protective factors.

Ergebnisse Sofortrekonstruktion

Hohenlind 1-2018 / 10-2019

N=100	Keine Komplikation n=72 (72%)	Komplikation n=28 (28%)	Implantatverlust n=7 (7%)	Nekrose n=9 (9%)	Infektion n=12 (12%)	Serom 12 (12%)
Mittleres Alter	**40,5 Jahre**	**44,6 Jahre**	**56 Jahre**	48 Jahre	52 Jahre	43 Jahre
Primäreingriff Sekundäreingriff	48 (79%) 24 (61%)	**13 (21%)** **15 (39%)**	4 (7%) 3 (8%)	**2 (3%)** **7 (18%)**	7 (12%) 5 (13%)	9 (15%) 3 (7%)
Implantatlager: epipectoral retropectoral	47 (65%) 15 (83%)	**25 (35%)** **3 (17%)**	5 (7%) 2 (11%)	7 (10%) 2 (11%)	10 (14%) 2 (11%)	**11 (15%)** **1 (6%)**
OP-Verfahren: Red.mastektomie NSM SSM	11 (55%) 43 (73%) 18 (86%)	**9 (45%)** **16 (27%)** **3 (14%)**	**3 (15%)** **3 (5%)** **1 (5%)**	**6 (30%)** **3 (5%)** **0 (0%)**	**4 (20%)** **6 (10%)** **2 (10%)**	**3 (15%)** **8 (14%)** **1 (5%)**
Netz: ADM Titannetz kein Netz	38 (70%) 13 (76%) 21 (75%)	**17 (30%)** **4 (24%)** **7 (25%)**	3 (5%) 1 (6%) 3 (11%)	4 (7%) 2 (12%) 3 (11%)	**8 (14%)** **3 (18%)** **1 (4%)**	**7 (13%)** **2 (6%)** 3 (11%)
Aktives Rauchen	6 (55%)	**5 (45%)**	**3 (27%)**	**4 (36%)**	1 (9%)	0 (0%)
Adipositas	11 (42%)	**15 (58%)**	3 (11,5%)	3 (11,5%)	**6 (23%)**	**9 (35%)**
Z. n. Radiatio	3 (43%)	**4 (57%)**	**3 (43%)**	**2 (29%)**	1 (14%)	0 (0%)
Z. n. neoadjvanter Chemo	12 (75%)	**4 (25%)**	0 (0%)	2 (12%)	2 (12%)	**5 (29%)**
Drüsenkörpergewicht	**226 g**	**493 g**	**511 g**	473 g	441 g	461 g

Brustzentrum Köln-Hohenlind

Ergebnisse Sofortrekonstruktion
Hohenlind 1-2018 / 10-2019

	N	Sek. Eingriff	Rauchen	Red.mast.	Z. n. Radiatio	Z.n. NACT	Kein RF
Kompl. insges.	28	15 (54%)	5 (18%)	9 (32%)	4 (14%)	4 (14%)	4 (14%)
Implantat-verlust	7	3 (43%)	3 (43%)	3 (43%)	3 (43%)	0 (0%)	0 (0%)
Nekrose	9	7 (78%)	4 (44%)	6 (67%)	2 (22%)	2 (22%)	0 (0%)
Infektion	12	5 (42%)	1 (8%)	4 (33%)	1 (8%)	2 (16%)	1 (8%)
Serom	12	3 (25%)	0 (0%)	3 (25%)	0 (0%)	5 (41%)	3 (25%)

Bei Ausschluss der Raucherinnen, der Patientinnen mit Z.n. Radiatio und Vermeidung der Red.mast.:

Komplikationsrate insges.	6/46 (13%)
Implantatverlust	0/46 (0%)
Nekroserate	0/46 (0%)
Infektrate	2/46 (4,3%)

Bei Ausschluss der Raucherinnen und der Patientinnen mit Z. n. Radiatio:

Komplikationsrate insges.	19/73 (26,0%)
Implantatverlust	2/73 (2,8%)
Nekroserate	4/73 (5,6%)
Infektrate	78/73 (11,0%)

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Zusammenfassung

Zusammenfassung

- Die hautsparende Mastektomie beinhaltet ein hohes Komplikationsrisiko.
- Eine Verringerung der Komplikationsrate scheint nur durch eine strenge Selektion der Patientinnen möglich.
- Insbesondere bei Vorliegen von Risikofaktoren ist die detaillierte Aufklärung (informed consent) der Patientinnen über das individuelle Risiko unerlässlich.
- Es werden dringend prospektive randomisierte Studien benötigt zur Standardisierung des operativen Vorgehens.

Vielen Dank für Ihre Aufmerksamkeit!

Brustzentrum Köln-Hohenlind