

Physical morbidity after reconstructive surgery

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Current state of affairs

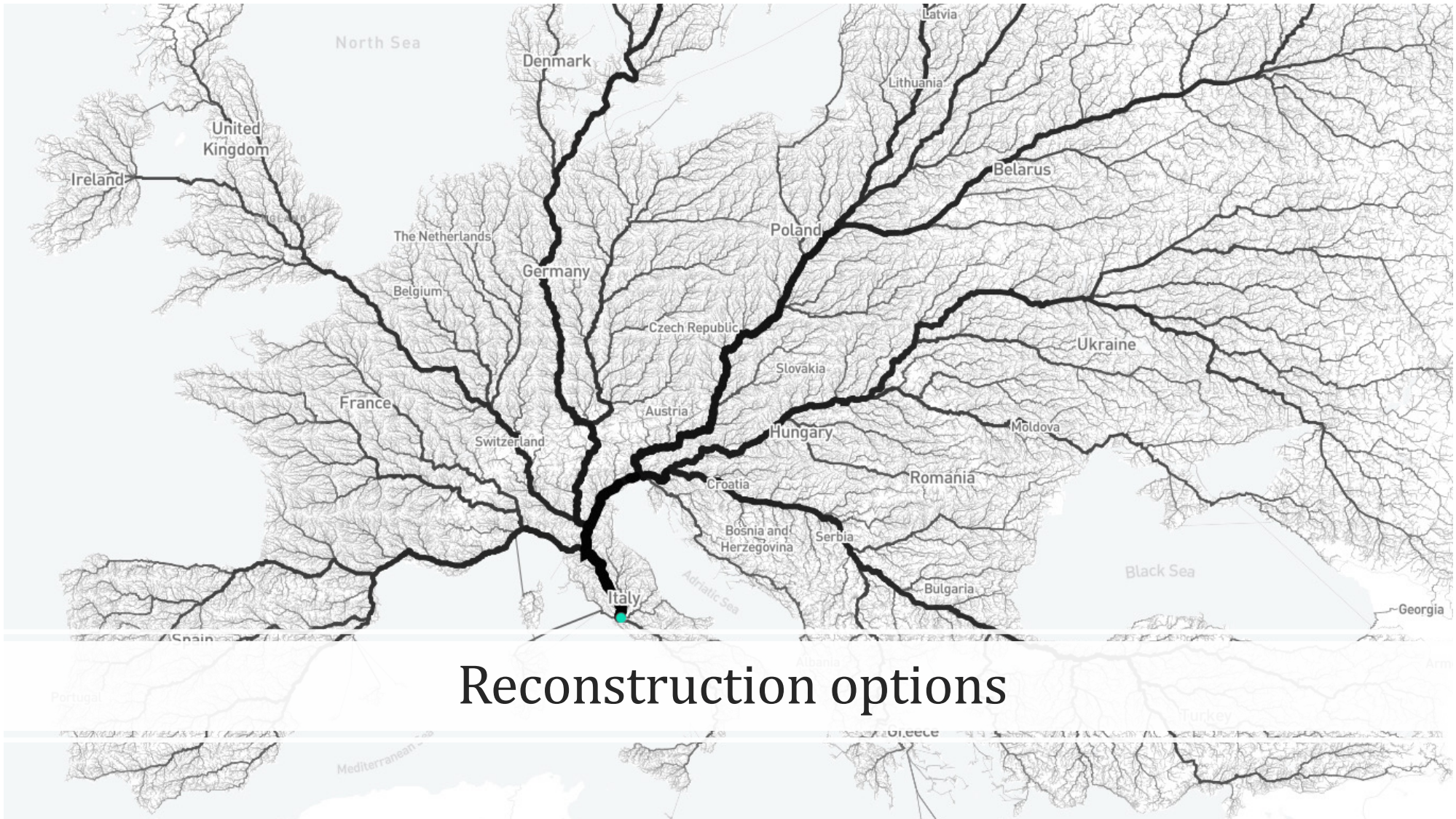
Breast cancer is the leading
cause of cancer in women

Most women are treated using
breast conserving surgery

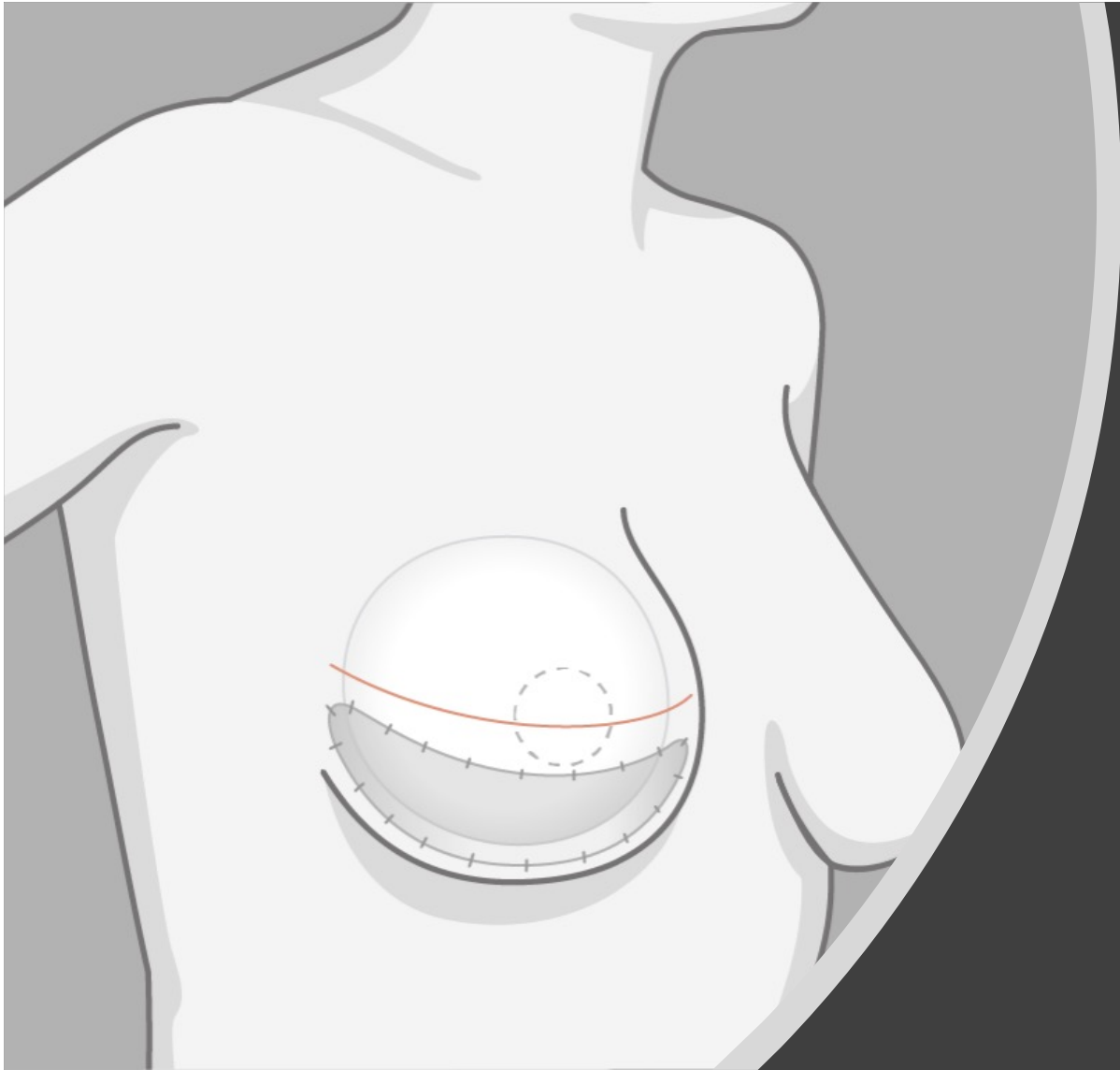
Reconstruction following
mastectomies improves QoL

Immediate reconstructions

- Previously rare, now increasingly utilized
- Aesthetically superior results?
- Limited long term follow up

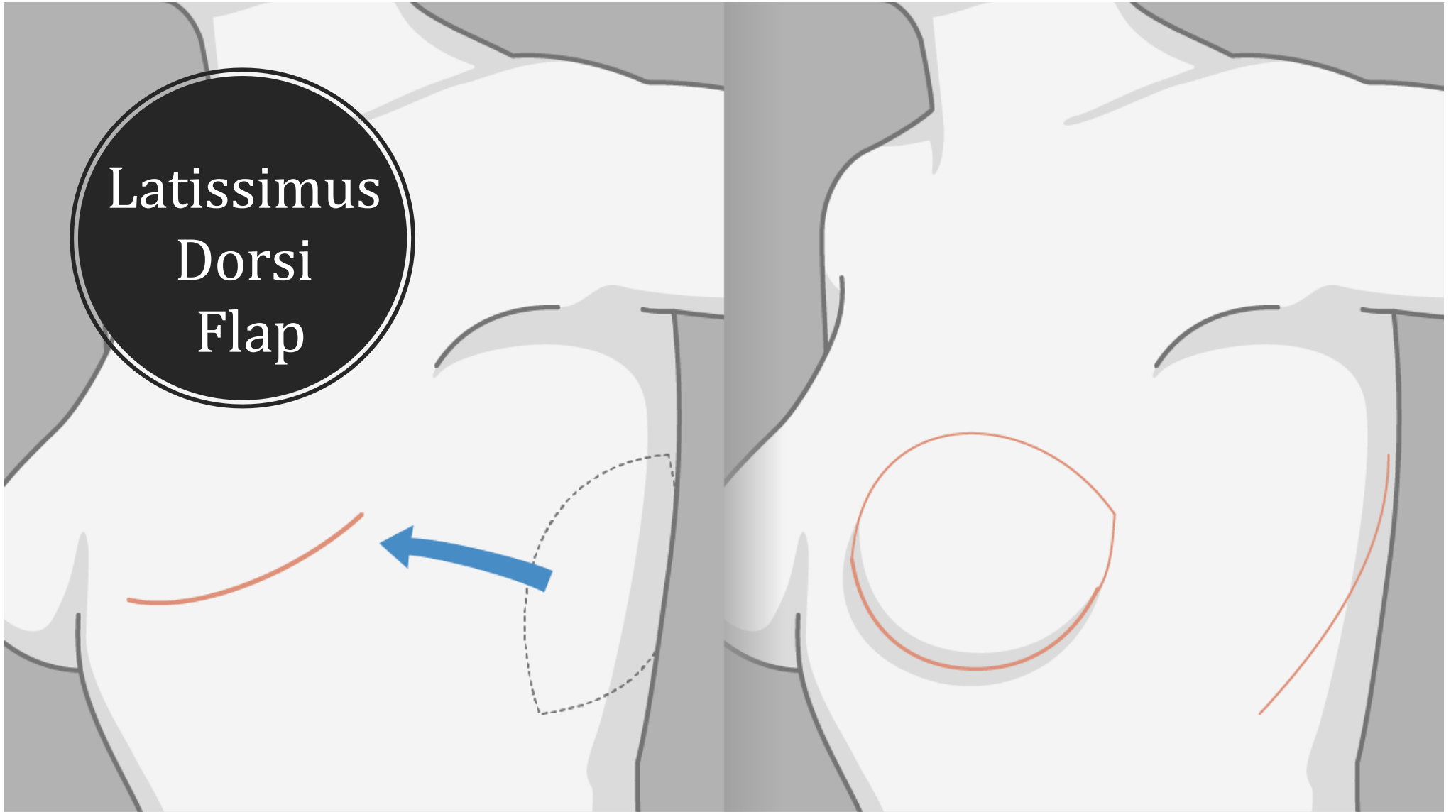


Reconstruction options

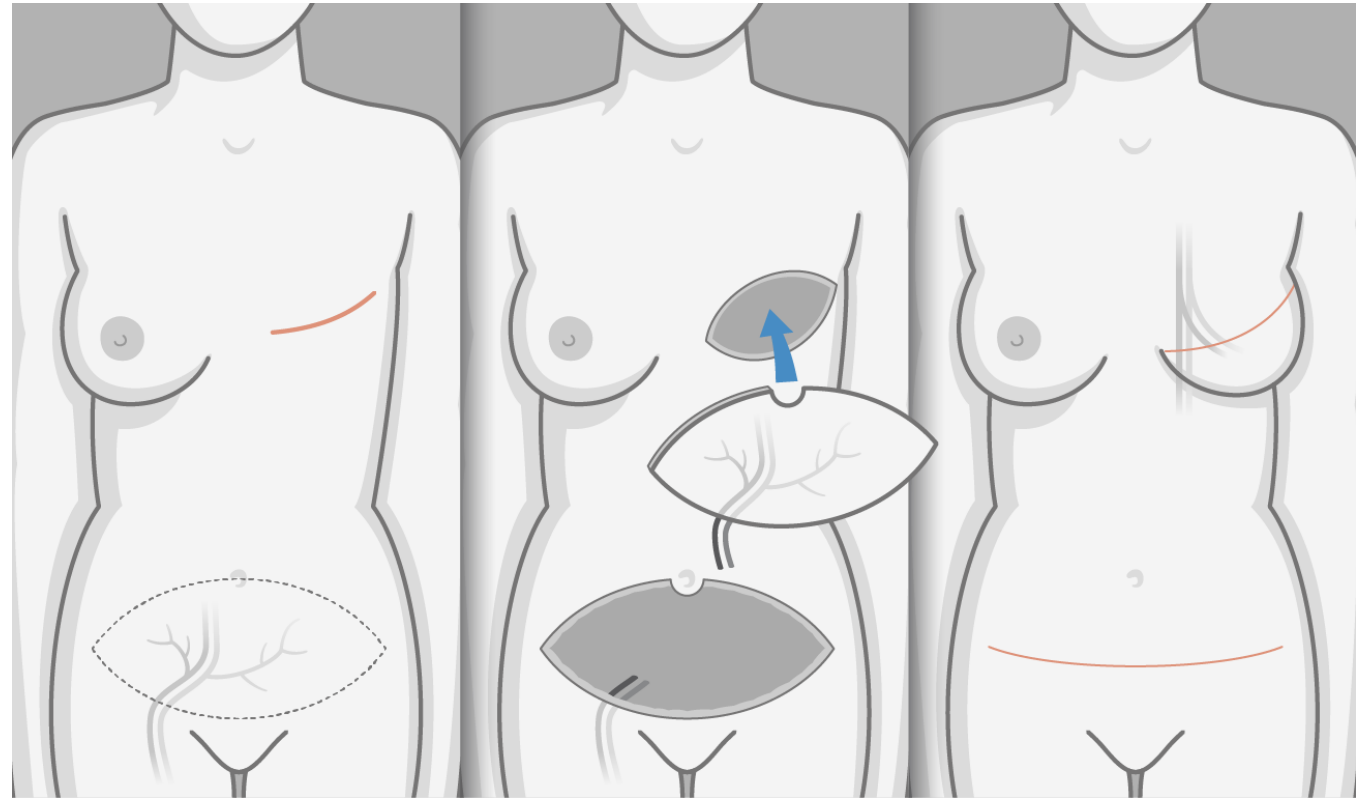


Implant
based

Latissimus
Dorsi
Flap



Deep
Inferior
Epigastric
Perforator
Flap



I-BREAST

- **Immediate Breast Reconstruction And Shoulder And Arm Morbidity**
- Cross-sectional study of unilateral immediate breast reconstructions
- Combination of patient reported outcomes and patient physical examination

Questionnaire

- Builds on the questionnaire used in

Husted Madsen, A. et al. Arm morbidity following sentinel lymph node biopsy or axillary lymph node dissection: A study from the Danish Breast Cancer Cooperative Group. Breast 17, 138–147 (2008).

Hauerslev KR, et al. Oncoplastic breast surgery versus conventional breast conserving surgery - a prospective follow-up study of subjective loco-regional late morbidity. Acta Oncol. 2021 Jun;60(6):750-759.

Constant Score Copenhagen Denmark 2011
(Efter, Constant CR et al. J. Shoulder Elbow Surg., Arch/April 2008)

Patientdata (label)	Diagnose _____ Høj: ____ Ve: _____								
	Kontrolidato: <table border="1"> <tr> <td>Præopr.</td> <td></td> <td></td> </tr> <tr> <td>3 måneder</td> <td></td> <td>6 måneder</td> </tr> <tr> <td>1 år</td> <td></td> <td>____ år</td> </tr> </table>	Præopr.			3 måneder		6 måneder	1 år	
Præopr.									
3 måneder		6 måneder							
1 år		____ år							
Tlf nr.									

A. Smerte	POINT
<p>Angiv den værste grad af smerte du har oplevet i din skulder ved normale daglige aktiviteter, de sidste 24 timer. (0-15 point) (marker med streg på linjen)</p> <p>(Point udregnes efter ligningen: $15 - X = \text{point}$; X er den målte afstand (cm) fra "ingen smerter" til markeringen (brug en lineal). Decimaler rundes op eller ned til nærmeste heltal, eks. 1,4 cm = 1 point og 1,5 cm = 2 point)</p> <p>Ingen smerter ----- Værst tænkelige smerter</p>	
<p>B. Daglige aktiviteter, de næste 4 spørgsmål omhandler daglige aktiviteter.</p> <p>1. Er din nattesøvn forstyrret af din skulder? (0-2 point) (sæt et kryds)</p> <p>(Point er angivet i parentes)</p> <p><input type="checkbox"/> Nej (2)</p> <p><input type="checkbox"/> Indimellem (1)</p> <p><input type="checkbox"/> Ja, hver nat (0)</p>	
<p>2. Hvor meget af dit normale daglige arbejde tillader din skulder dig at udføre? (0-4 point) (marker med en streg på linjen)</p> <p>(Point udregnes ved at måle afstanden (cm) fra "alt" til markeringen (brug en lineal)): 0-3 = 4 point, >3-6 = 3 point, >6-9 = 2 point, >9-12 = 1 point, >12-15 = 0 point</p> <p>Alt ----- Inet</p>	
<p>3. Hvor meget af dine normale fritidsaktiviteter tillader din skulder dig at udføre? (0-4 point) (marker med en streg på linjen)</p> <p>(Point udregnes ved at måle afstanden (cm) fra "alt" til markeringen (brug en lineal)): 0-3 = 4 point, >3-6 = 3 point, >6-9 = 2 point, >9-12 = 1 point, >12-15 = 0 point</p> <p>Alt ----- Inet</p>	
<p>4. Op til hvilken højde kan du bruge din hånd uden ubehag? (0-10 point) (sæt et kryds)</p> <p>(Point er angivet i parentes)</p> <p><input type="checkbox"/> Under taljen (0)</p> <p><input type="checkbox"/> Op til taljen (2)</p> <p><input type="checkbox"/> Op til brystbenet (4)</p> <p><input type="checkbox"/> Op til halsen (6)</p> <p><input type="checkbox"/> Op til toppen af hovedet (8)</p> <p><input type="checkbox"/> Over hovedet (10)</p>	
Samlet score for A+B (subjektive delmål, 0-35 point)	

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¹Ortopædkirurgisk Afdeling, Hvidovre Hospital, ²Dansk Ramazzini Center, Arbejdsmedicinsk Klinik, Regionshospitalet Herning ³Fysioterapien, Hvidovre Hospital. Dansk oversættelse, Oktober 2011.

Medical history and past injuries

Skin sensibility

Bioimpedance

Water displacement

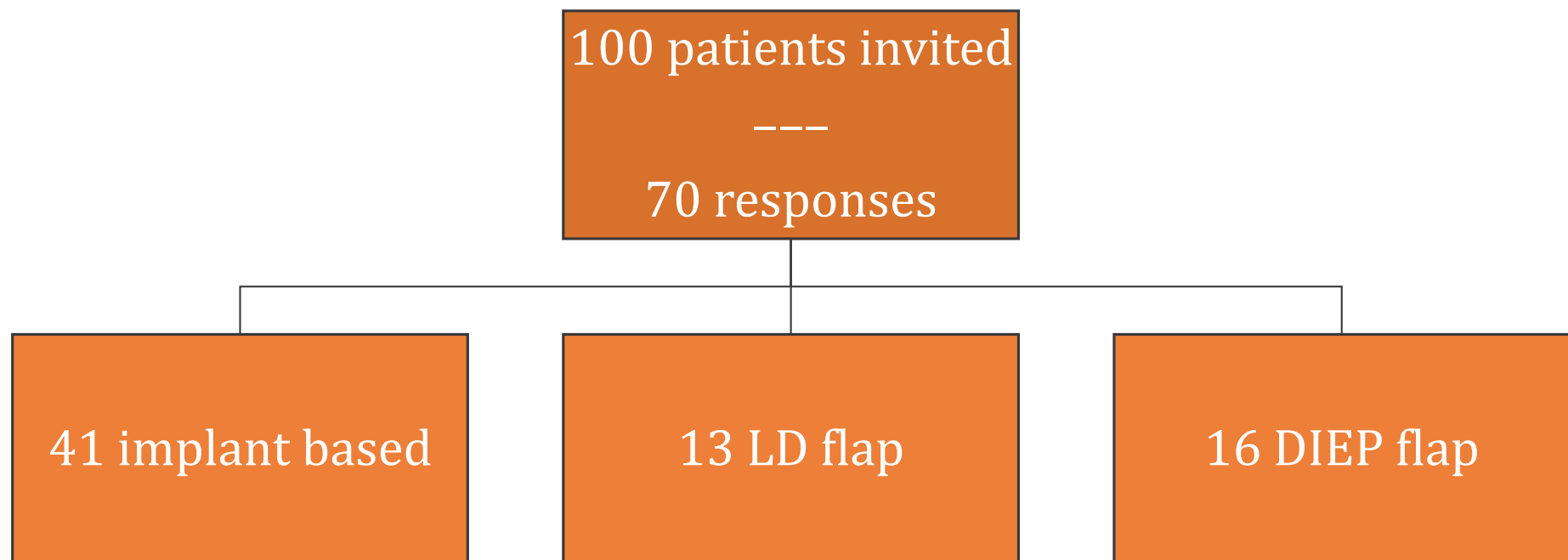
Passive Range of Movement

Constant Shoulder Score



Results

Participants of the Questionnaire



Characteristics of participants

- 41 implant based
- 13 LD flap
- 16 DIEP flap

	Participants		Non-responders		p-value
Smoker status	Never	35 (50%)	Never	25 (86%)	0.001
	Active/Previous	35 (50%)	Active/Previous	4 (14%)	
Other cancers than BC	Yes	6 (9%)	Yes	7 (23%)	0.044
	No	64 (91%)	No	23 (77%)	

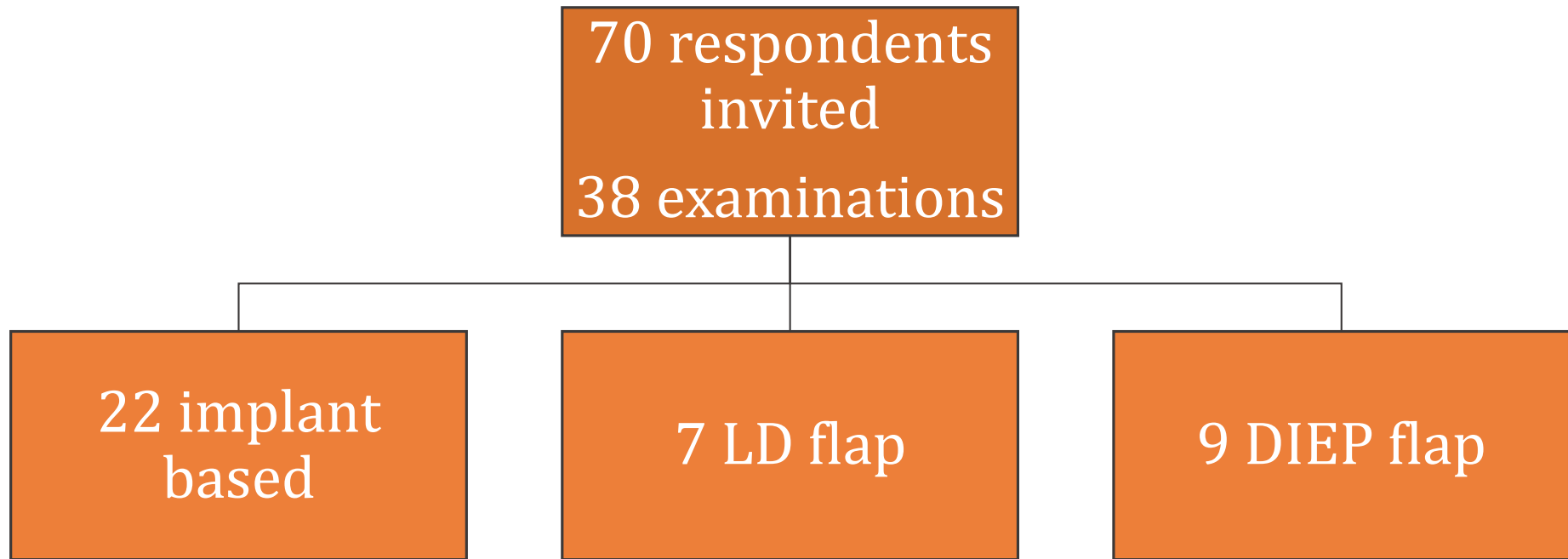


Results from Questionnaire

- No significant differences observed

	Implant (n=41)	LD flap (n=13)	DIEP flap (n=16)	p-value
Impairment of hand and arm function	8 (20%)	5 (38%)	4 (25%)	0.407
Impairment of work ability	9 (23%)	6 (46%)	7 (43%)	0.114
Impairment of hobbies and sport activities	18 (45%)	6 (46%)	12 (75%)	0.113

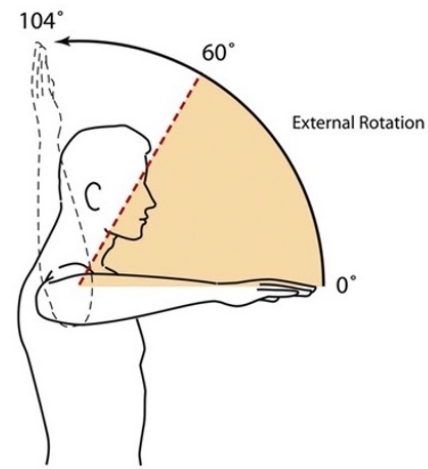
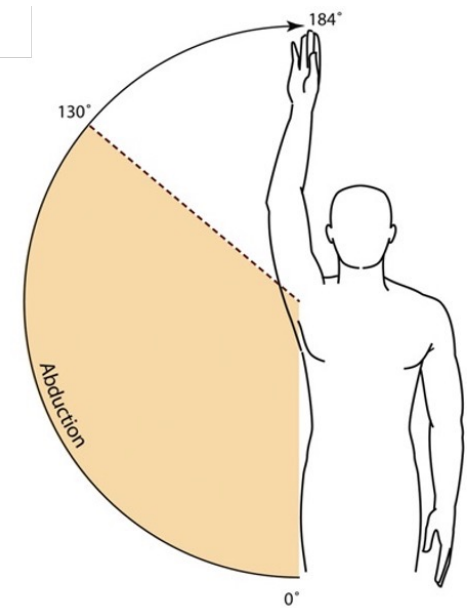
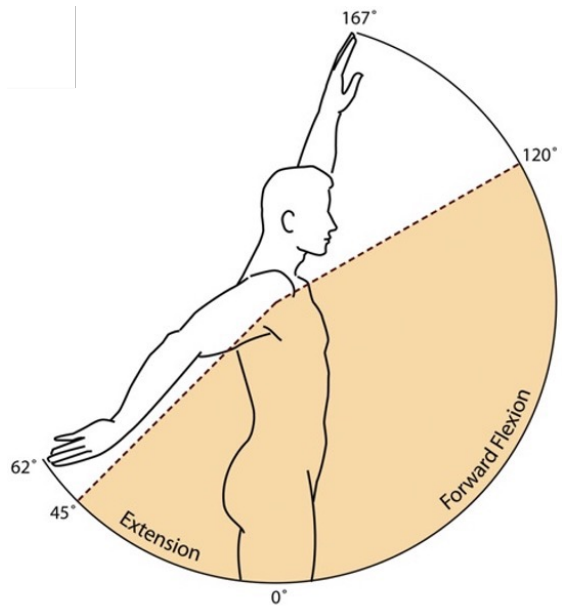
Participants in the Physical Examinations



Results from Physical Examinations

- Preliminary results
- *Namdari S, et al. Defining functional shoulder range of motion for activities of daily living. J Shoulder Elbow Surg. 2012 Sep;21(9):1177-83. doi: 10.1016/j.jse.2011.07.032. Epub 2011 Nov 1. PMID: 22047785.*

No significant differences



Limitations

- Cross sectional study
- Previous injuries might bias results

Conclusion

Larger longitudinal
cohort studies