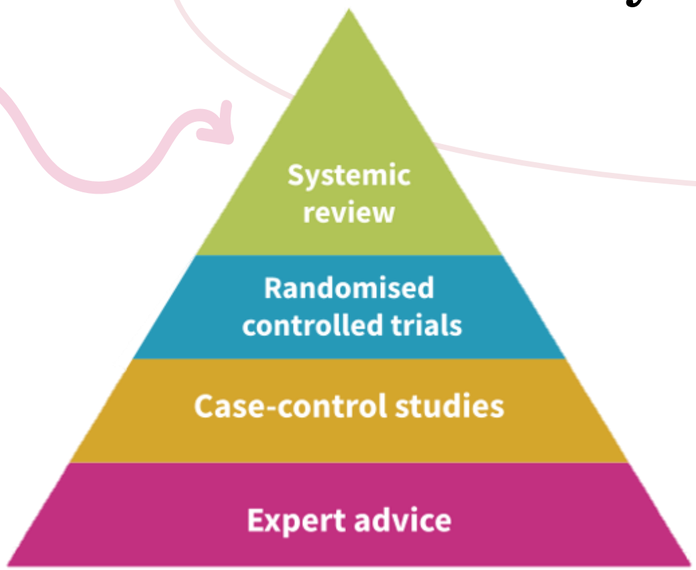
Go Pre or Stay Sub?

Immediate Implant-Based Breast Reconstruction

A Systematic Review and Meta-analysis



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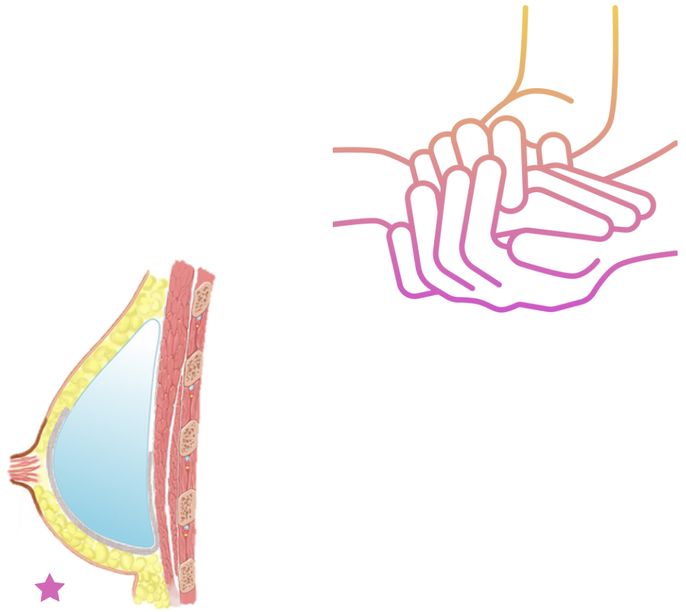
Patient centered care

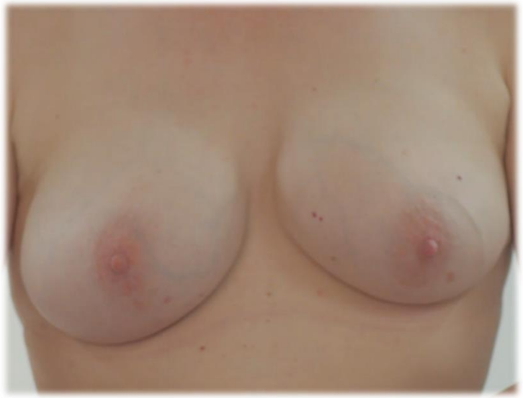
Pre VS Sub

- Body shape, patient preferences, course of disease
- Breast reconstruction options
- Prepectoral implant-placement on the rise

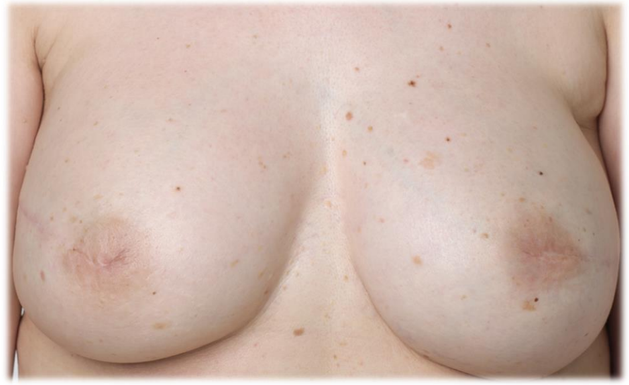


★ Short-term safety and cosmetic outcomes of endoscopic direct-to-implant breast reconstructio and simultaneous contralateral breast augmentation for breast cancer: a prospective analysis of 3 patients | World Journal of Surgical Oncology | Full Text

Aim

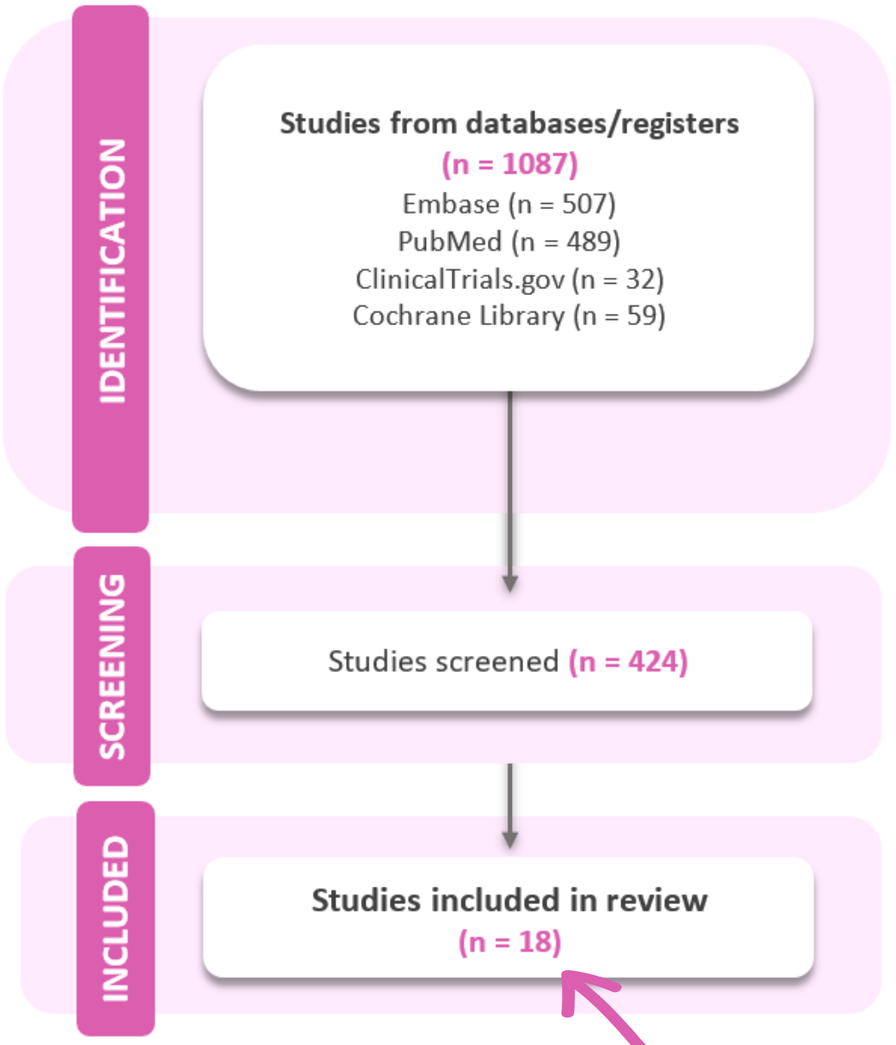


Incidence and severity of postoperative complications following **prepectoral** and **subpectoral** immediate implant-based breast reconstruction



Method

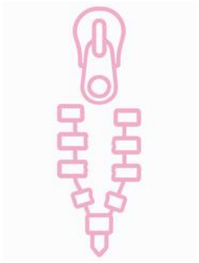
- Systematic literature search
- Inclusion criteria
  - Immediate implant-based breast reconstruction
  - Pre VS Sub
  - No adjuvant therapy

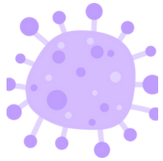


Method

- Primary outcome
  - Loss of implant

- Secondary outcomes:
  - Dehiscence, hematoma, infection, seroma, necrosis, re-operation



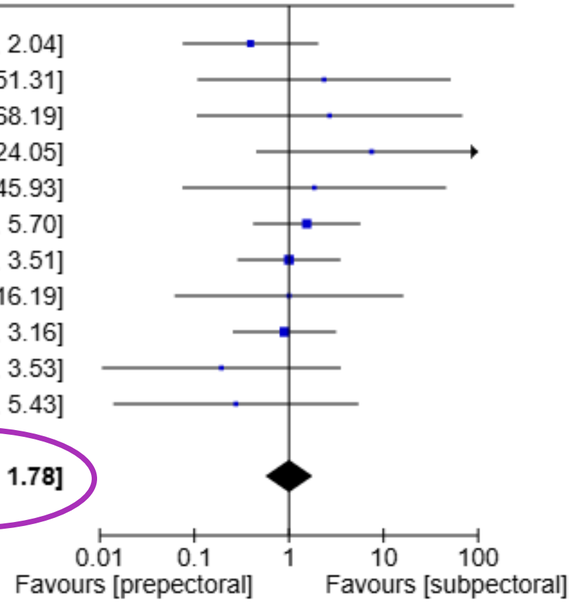


Primary outcome

Loss of implant

Study or Subgroup	Prepectoral Events	Prepectoral Total	Subpectoral Events	Subpectoral Total	Weight	Odds ratio IV, Random, 95% CI
Avila 2020	2	203	5	202	12.2%	0.39 [0.08 , 2.04]
Baker 2018	2	43	0	19	3.5%	2.35 [0.11 , 51.31]
Casella 2014	1	39	0	34	3.2%	2.69 [0.11 , 68.19]
Cavalcante 2024	1	22	1	158	4.2%	7.48 [0.45 , 124.05]
Copeland-Halperin 2019	1	160	0	98	3.2%	1.85 [0.07 , 45.93]
Escandón 2023	6	77	4	77	19.5%	1.54 [0.42 , 5.70]
Haddock 2021	5	204	5	204	21.1%	1.00 [0.29 , 3.51]
Mirhaidari 2020	1	112	1	112	4.3%	1.00 [0.06 , 16.19]
Potter 2019	3	63	17	322	21.0%	0.90 [0.25 , 3.16]
Sbitany 2017	0	77	5	169	3.9%	0.19 [0.01 , 3.53]
Schaeffer 2019	0	45	3	90	3.7%	0.27 [0.01 , 5.43]
Total (Wald[a])		**1045**		**1485**	**100.0%**	**1.00 [0.56 , 1.78]**
Total events:	22		41			

Odds ratio IV, Random, 95% CI



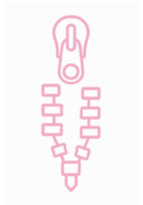
Test for overall effect: Z = 0.00 (P = 1.00)
Test for subgroup differences: Not applicable
Heterogeneity: Tau² (REML[b]) = 0.00; Chi² = 6.40, df = 10 (P = 0.78); I² = 0%

Footnotes

[a]CI calculated by Wald-type method.
[b]Tau² calculated by Restricted Maximum-Likelihood method.

- ***11 studies***
- ***1045 reconstructions in the prepectoral group***
- ***1485 reconstructions in the subpectoral group***

Secondary outcomes



Dehiscence

Seroma

Hematoma

Necrosis

Infection

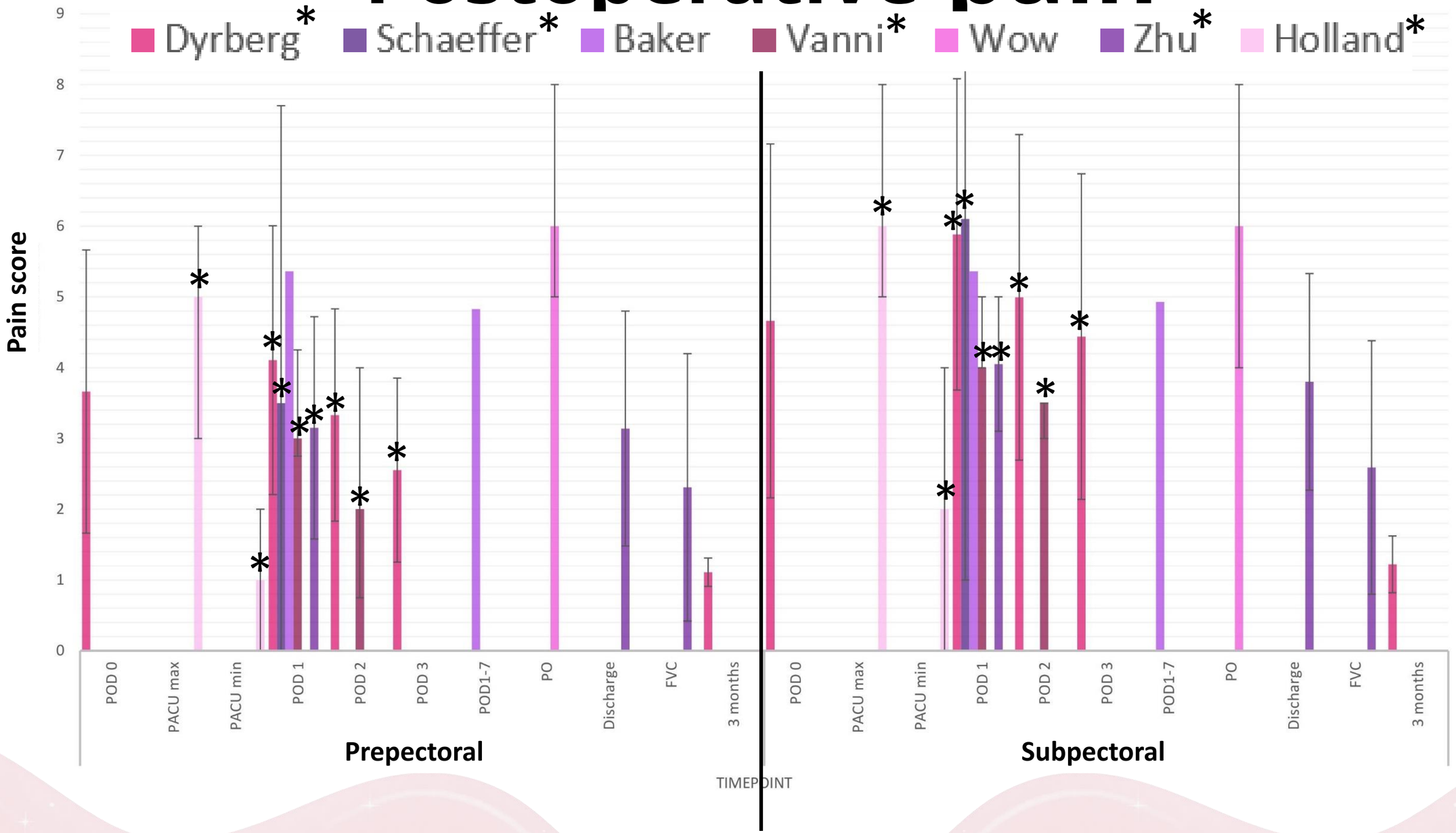
Re-operation

No significant differences in the incidence

Complications according to Clavien-Dindo

Placement	Grade I 	Grade II 	Grade III 
Prepectoral (n = 1095)	26	20	99
Subpectoral (n = 1593)	45	38	136
P-Value	**0.48**	**0.42**	**0.66**

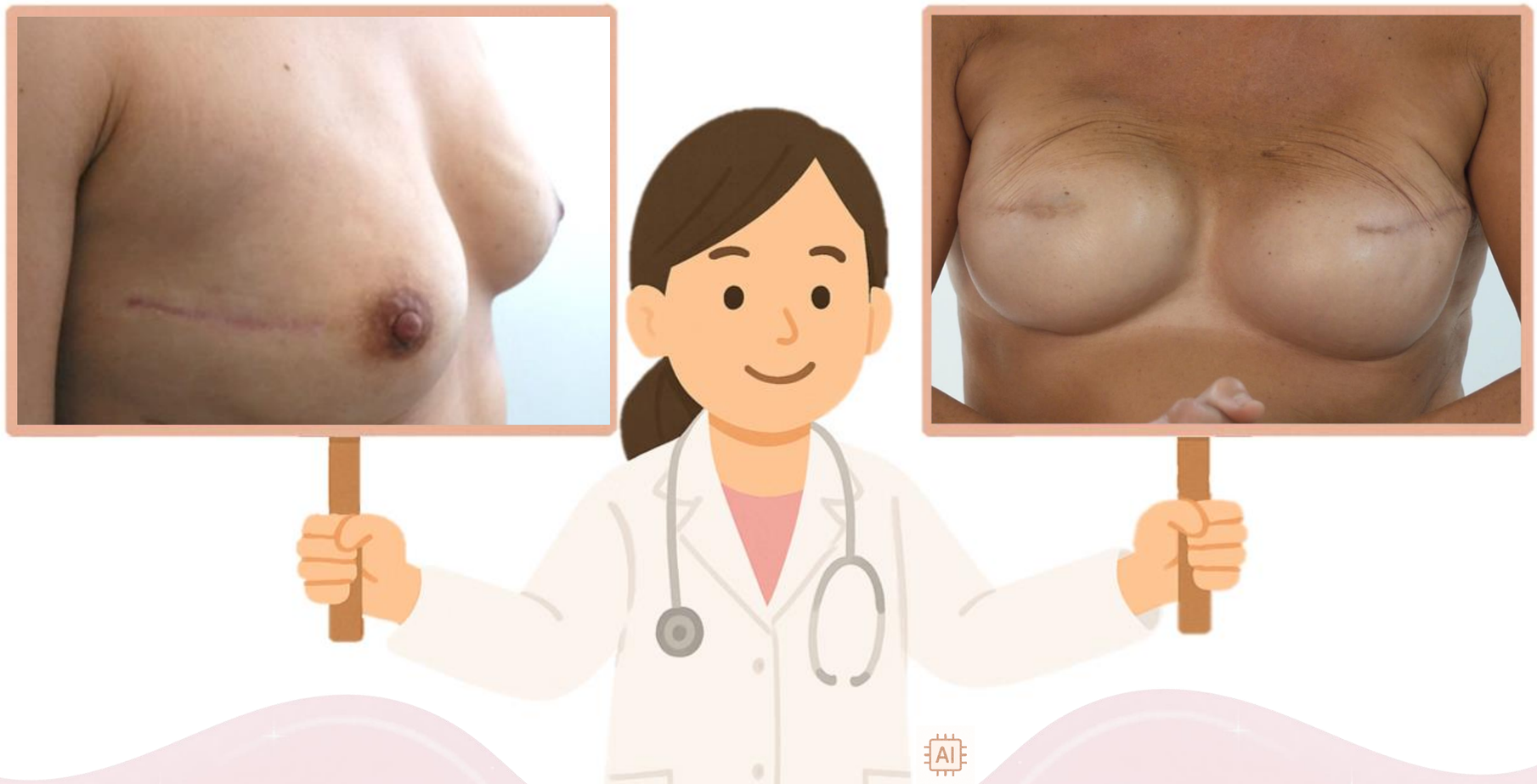
Postoperative pain



Discussion

Capsular contracture

- Prepectoral
  - Rippling
- Subpectoral
  - BAD



Discussion

- Limitations
  - Retrospective studies
  - Subjective assessments
  - Confounder - mastectomy skin
- Real-world clinical practice

- Future studies
  - Study design
  - COS and CMS
  - Clavien-Dindo

Conclusion

Prepectoral breast reconstruction is as safe as **subpectoral** implant-based breast reconstruction in this patient population

THANK YOU

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