

Nipple sharing: systematic review and meta-analysis of techniques and outcomes

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1. BACKGROUND

- **Nipple sharing** utilizes a **graft from a portion of the contralateral nipple** for nipple reconstruction
- Nipple sharing is mainly employed in **post-cancer breast reconstruction** and **gender affirmation surgery**
- NAC reconstruction, regardless of technique, enhances **patient satisfaction**
- Key attributes: **projection, color, shape, sensation, and symmetry**
- There is limited literature that consolidates **techniques** and **postoperative outcomes** for nipple sharing

2. PURPOSE

To systematically review the existing literature on **nipple sharing** in the context of **post-cancer breast reconstruction**, categorize all described **surgical techniques**, and analyze **surgical outcomes** and **patient satisfaction**.

3. METHODS

Study Selection

- Databases: MEDLINE, Embase, PubMed, and the Cochrane Database of Systematic Reviews
- Time frame: 2000 to January 30, 2023
- Search terms: **(Nipple AND shar*) OR (Nipple AND (graft* OR composite OR allograft*))**

Data Extraction

- Parameters extracted: authors, publication year, country, patient demographics, breast cancer type, cancer treatment, surgical technique, surgical outcomes, and patient satisfaction
- Surgical techniques were extracted to address **nipple graft collection methods** and **nipple graft placement methods**

Analysis

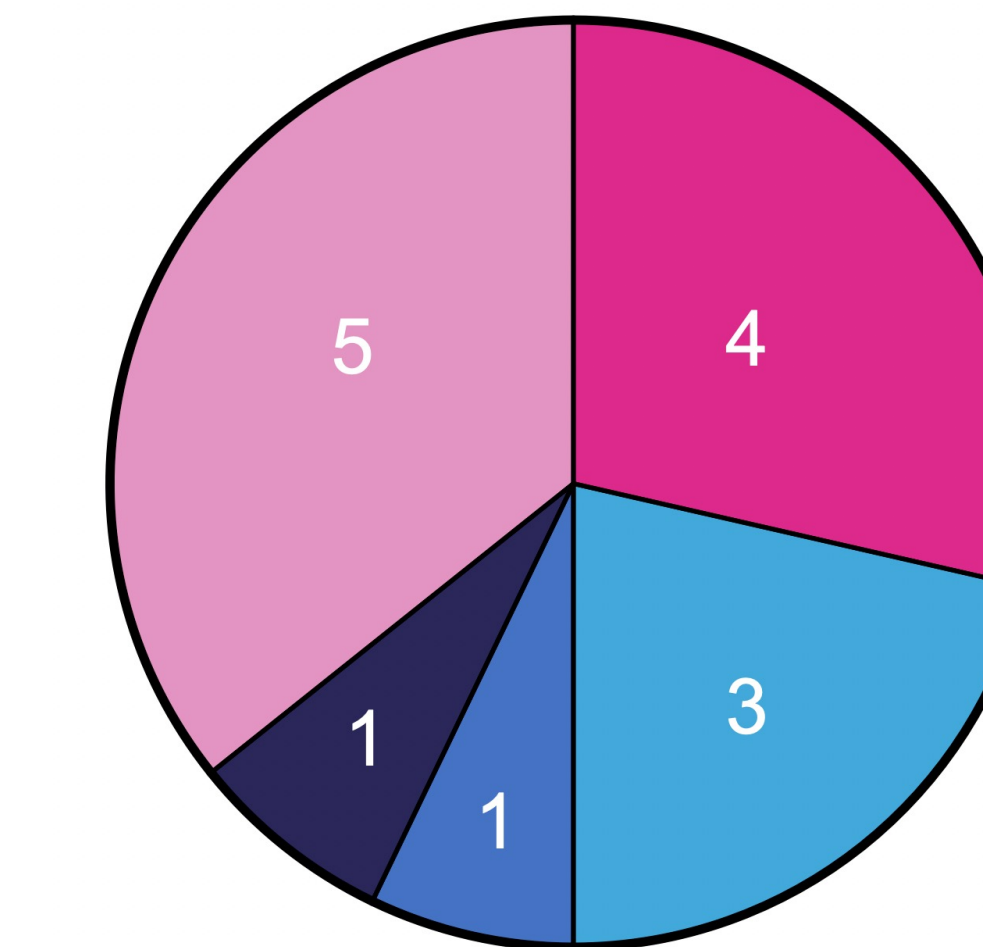
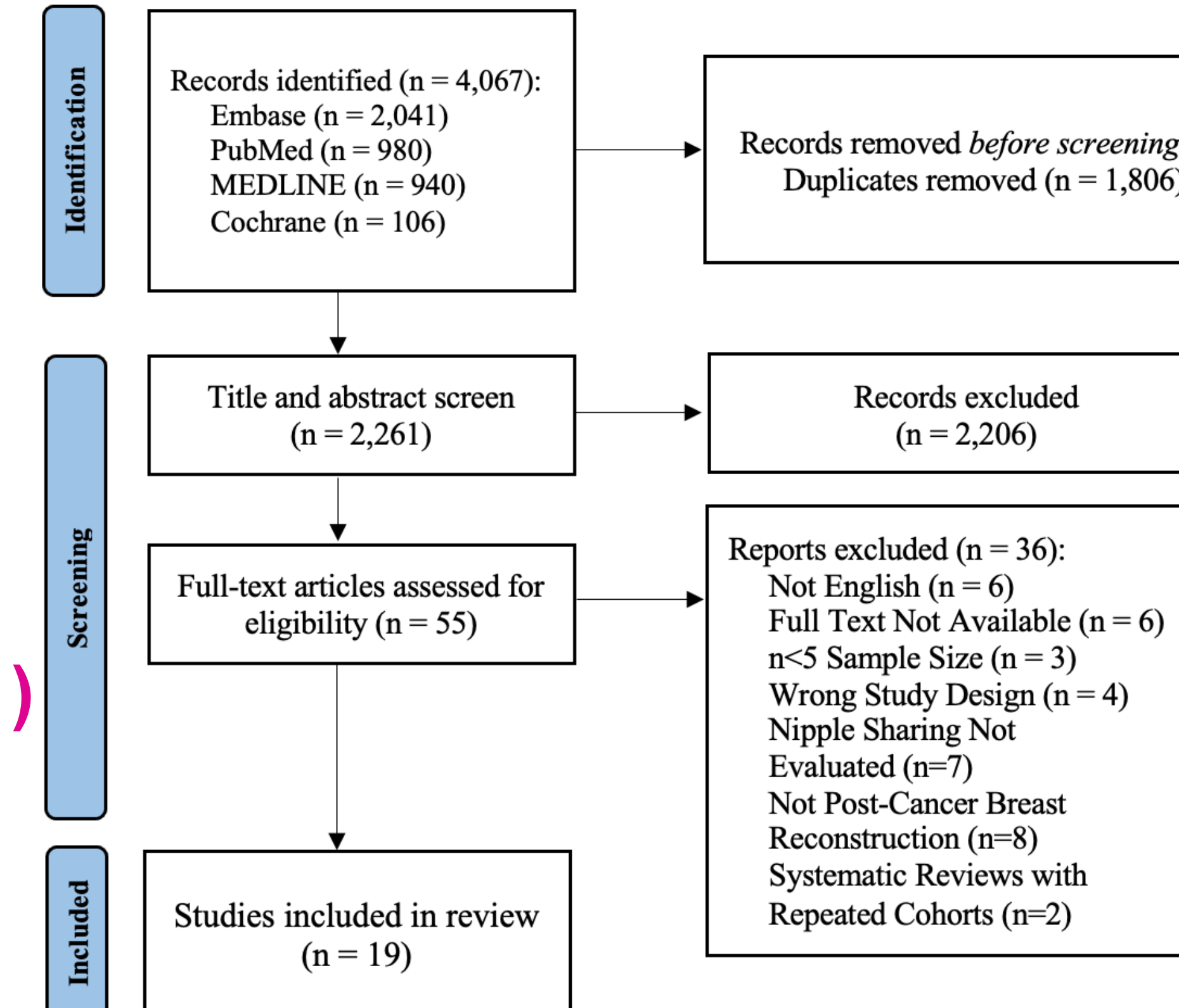
- **Descriptive statistics** were performed using GraphPad Prism version 10.2.1
- **Chi-squared tests** were performed with Microsoft® Excel
- Significance: p-value <0.05

4. RESULTS

- **4,067** articles were identified
- **19** studies were included

Surgical Techniques

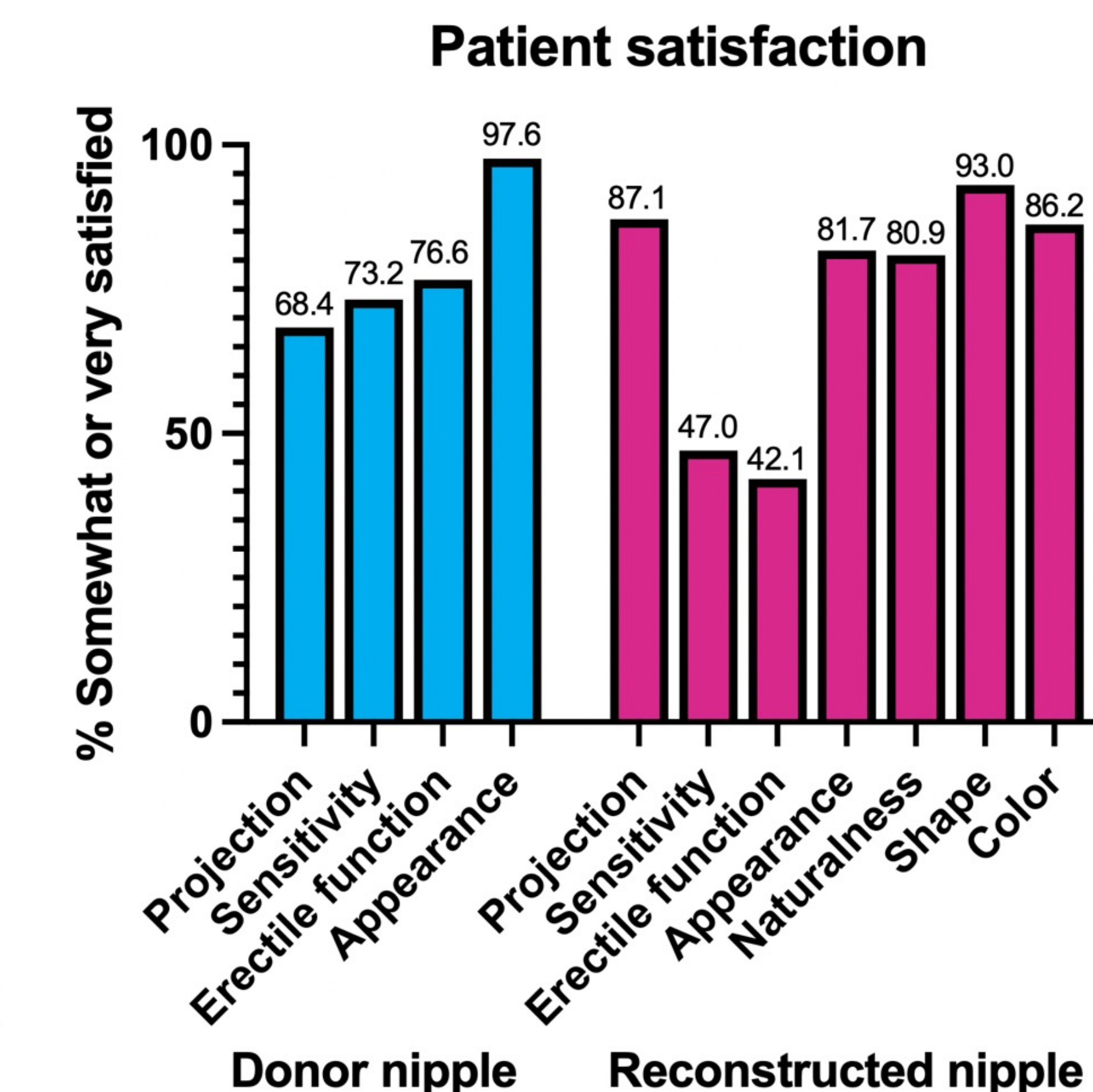
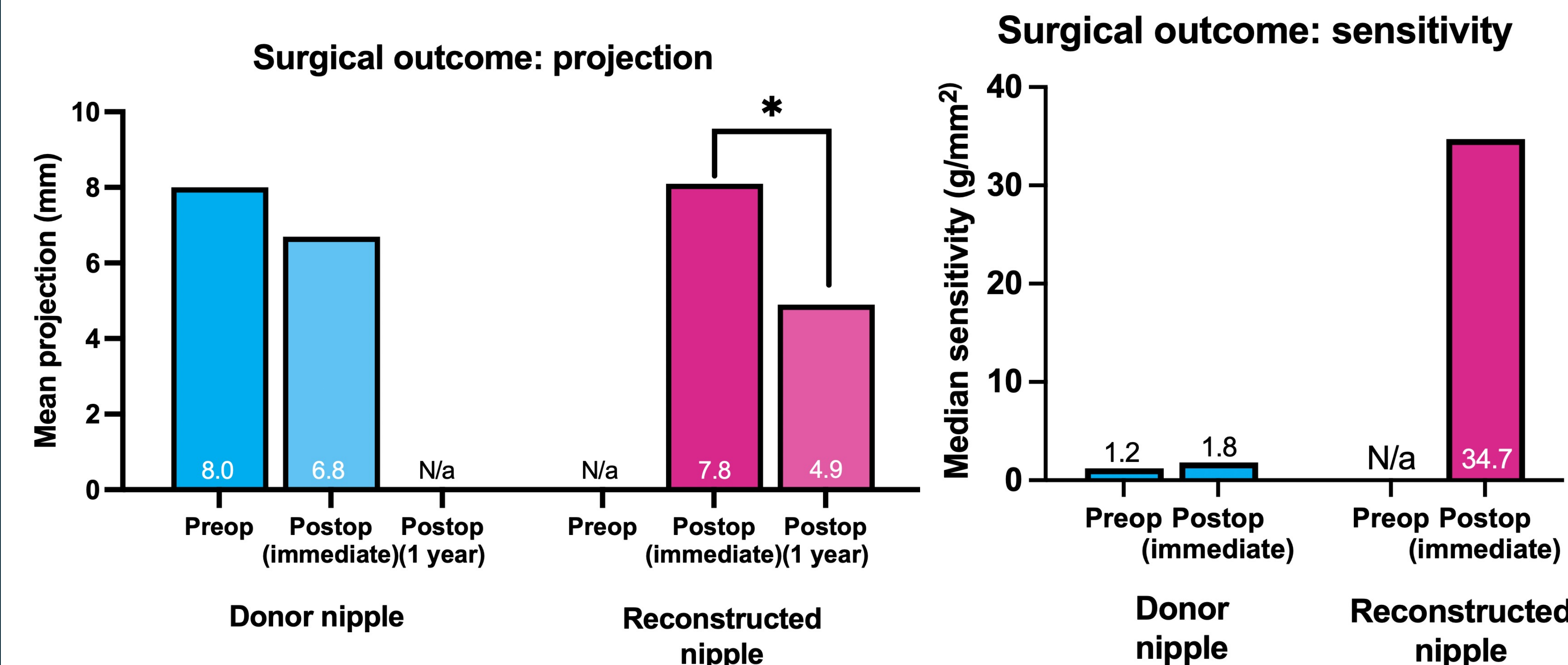
- **Nipple graft collection**
 - Transverse incision (5)**
 - Coronal incision (4)**
 - Sagittal incision (4)**
 - Circumferential incision (1)**
- **Graft placement method**
 - Direct-to-site (8)**
 - Integrated C-V flap (1)**
 - Spiral (1)**



Total=14 Complications

- Partial NAC necrosis
- Graft failure
- Full NAC necrosis
- Seroma
- Other
 - 1 Superficial epidermolysis
 - 1 Depigmentation
 - 1 Hypertrophic scar
 - 1 Paget disease
 - 1 Invasive ductal carcinoma

- **5.0%** of patients (n=280) experienced **complications**
- The rare development of **Paget disease** and **invasive ductal carcinoma** highlight the need for:
 1. **Meticulous preoperative assessment**
 2. **Vigilant long-term monitoring**



- **Objective** evaluation demonstrated a **decrease in projection and sensitivity** of both donor and reconstructed nipples
- **Subjective** evaluation remained high for **projection and appearance**
- Fears of decreased projection can be quelled by **adhering to stricter guidelines** regarding eligibility (≥ 15 mm diameter, ≥ 8 mm projection)

5. CONCLUSION

Nipple sharing is a nipple reconstruction technique that is safe, effective, and leads to high patient satisfaction