

A Split-Chest, Prospective, Randomized Controlled Trial of Breast Neurotization in Implant-Based Breast Reconstruction

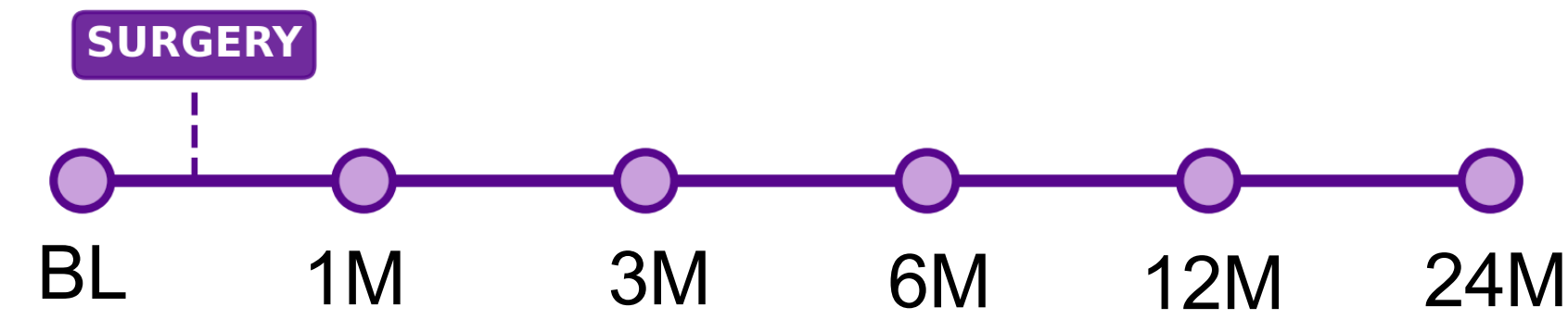
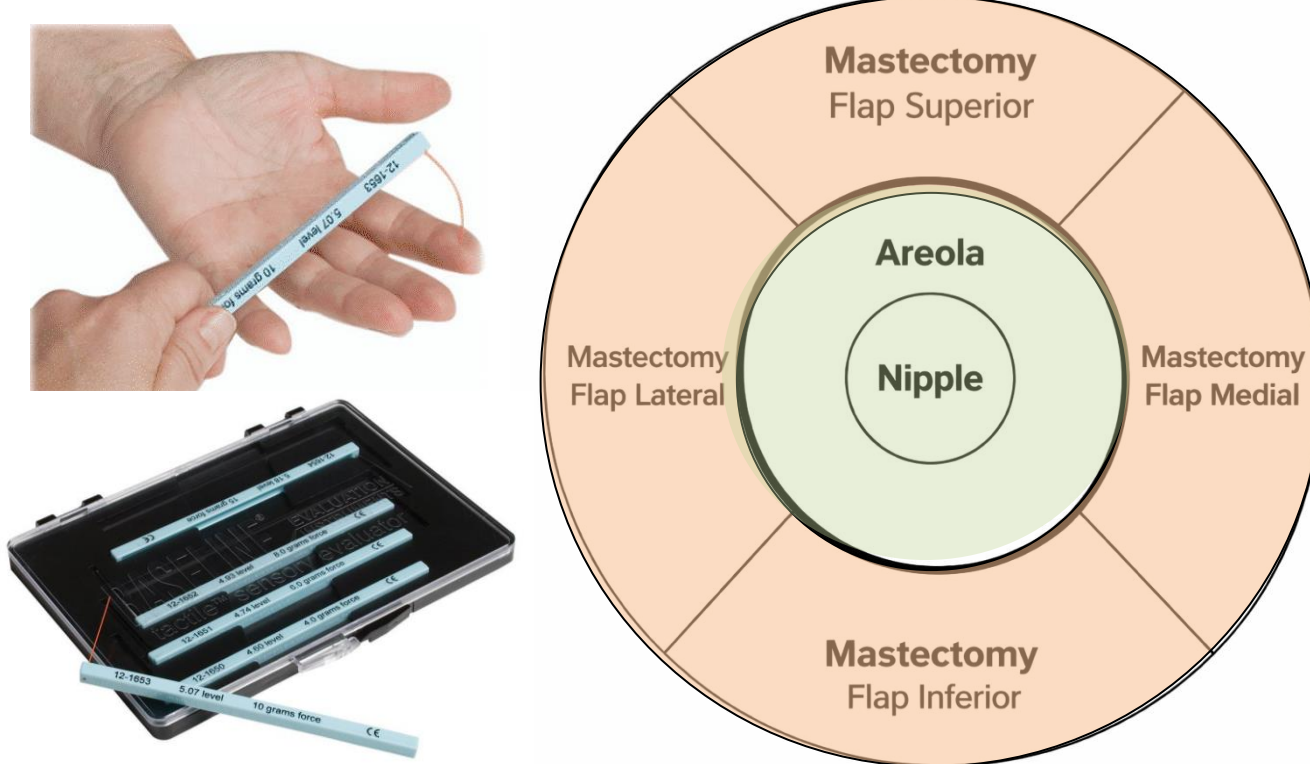
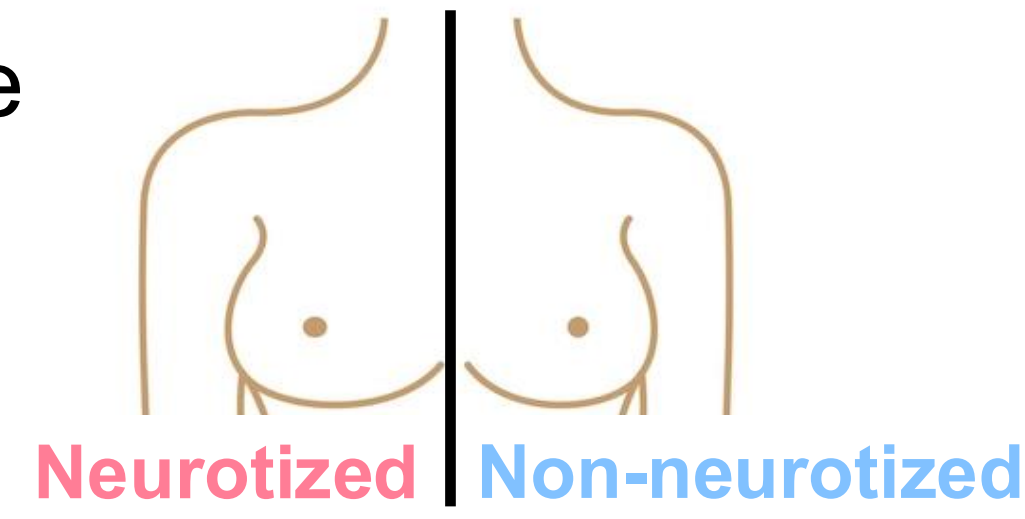
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BACKGROUND

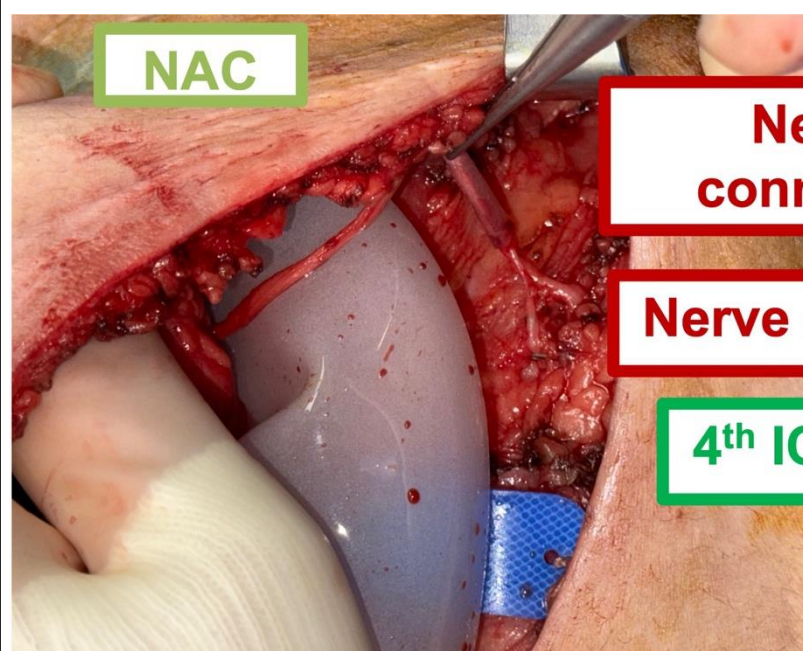
- Few studies exist on the impact of **neurotization** after **NSM** and **IBBR**
- Notable deficiencies in all studies include...
 - Small sample size
 - Lack of a comparison group
 - <1 year of follow up
 - Wide variability in the measures of sensation

METHODS

- Single-blind, randomized controlled trial** where patients serve as their own controls by receiving **neurotization in one breast** and **not in the other**
- Quantitative
 - Semmes Weinstein Monofilament in 9 areas of the breast at various time points
- Qualitative
 - BREAST-Q Validated Questionnaires

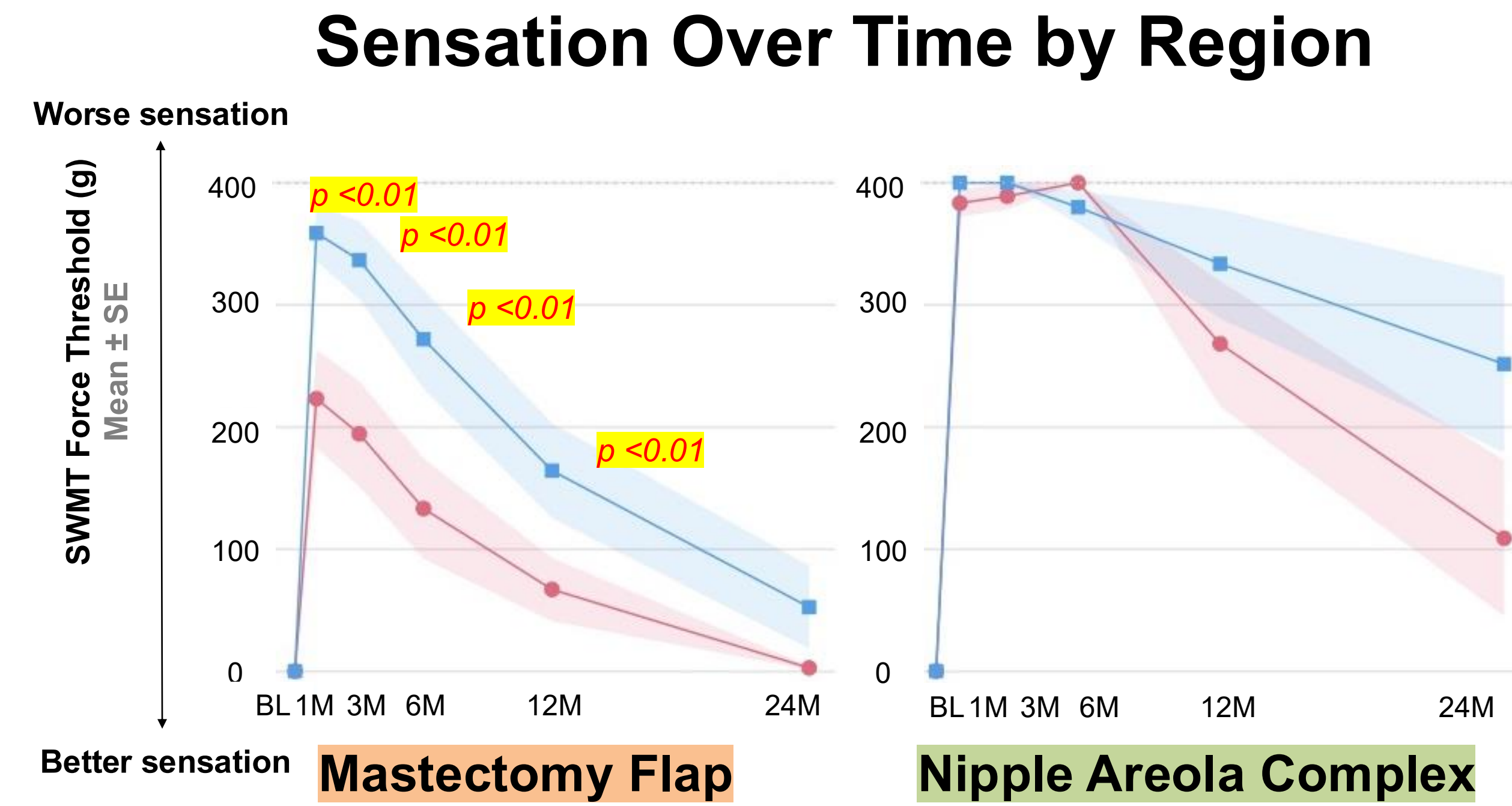


RESULTS

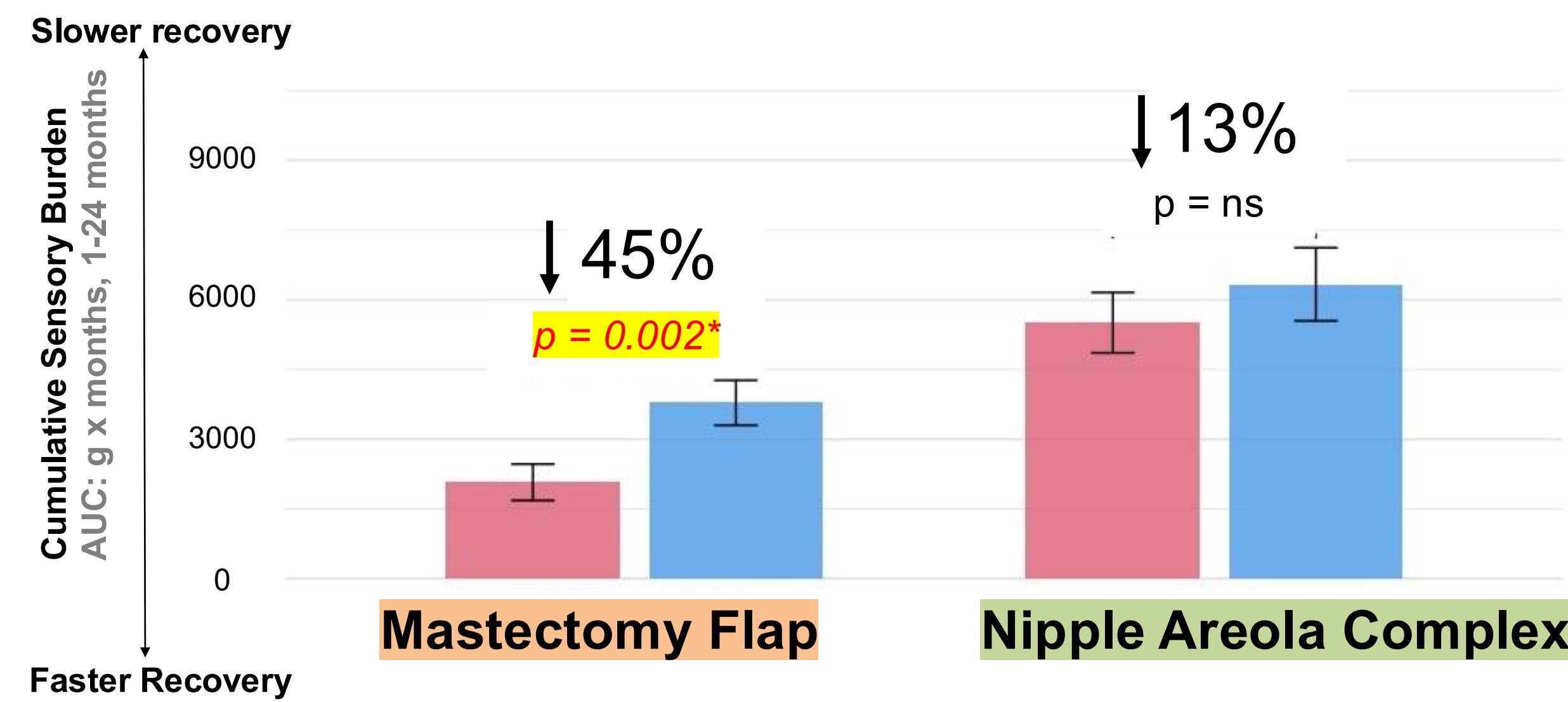
Patient Characteristics		Breast Characteristics	
n	6	n	12
Age (years)	40.1 ± 7.8	Indication	Therapeutic – 2 (17%) Prophylactic – 10 (83%)
BMI (kg/m²)	22.2 ± 2.0	Nipple Sparing	6 (100%)
Chemotherapy	0 (0%)	Reconstruction	Tissue Expander – 1 (17%) Direct-to-Implant – 5 (83%)
Never smoker	6 (100%)	Radiation	0 (0%)
Diabetes	0 (0%)		4th anterior IC nerve used in all breasts. Coapted to NAC using a 2 mm nerve graft (~7 cm, trimmed to length) & nerve connector
Follow Up			
12-month	6 (100%)		
24-month	4 (67%)		

RESULTS

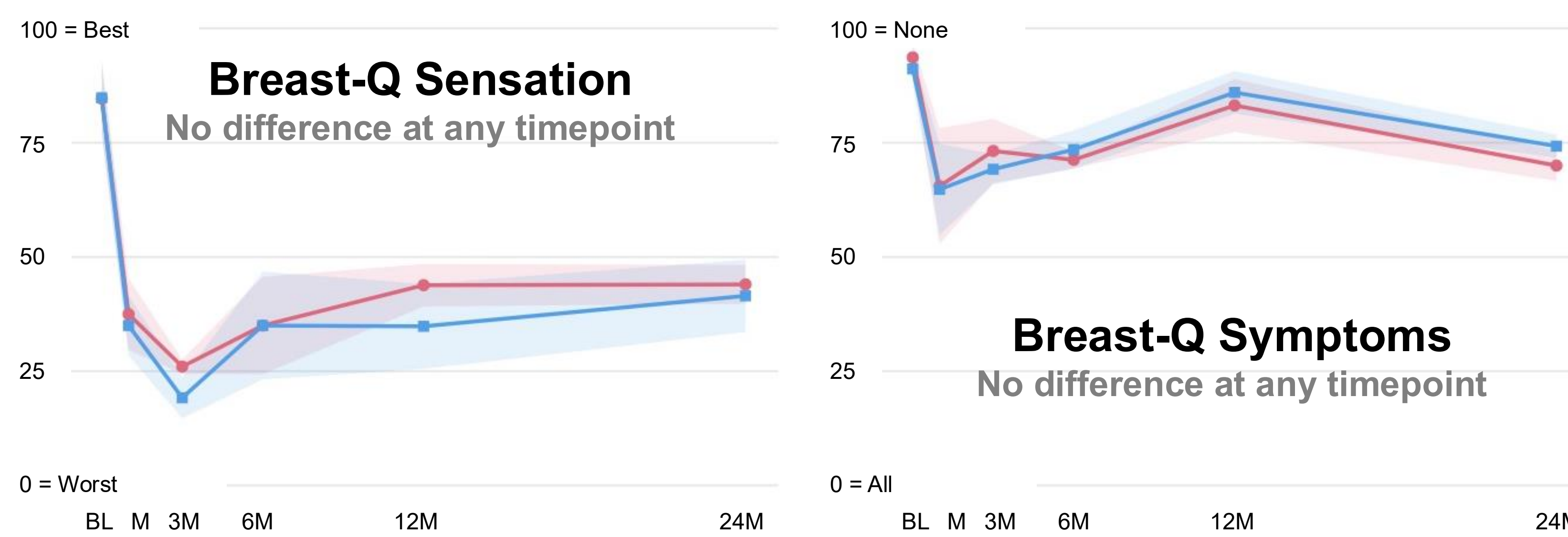
Sensation in **Neurotized** vs. **Non-Neurotized** Breasts by Region



Total Burden of Insensation by Region

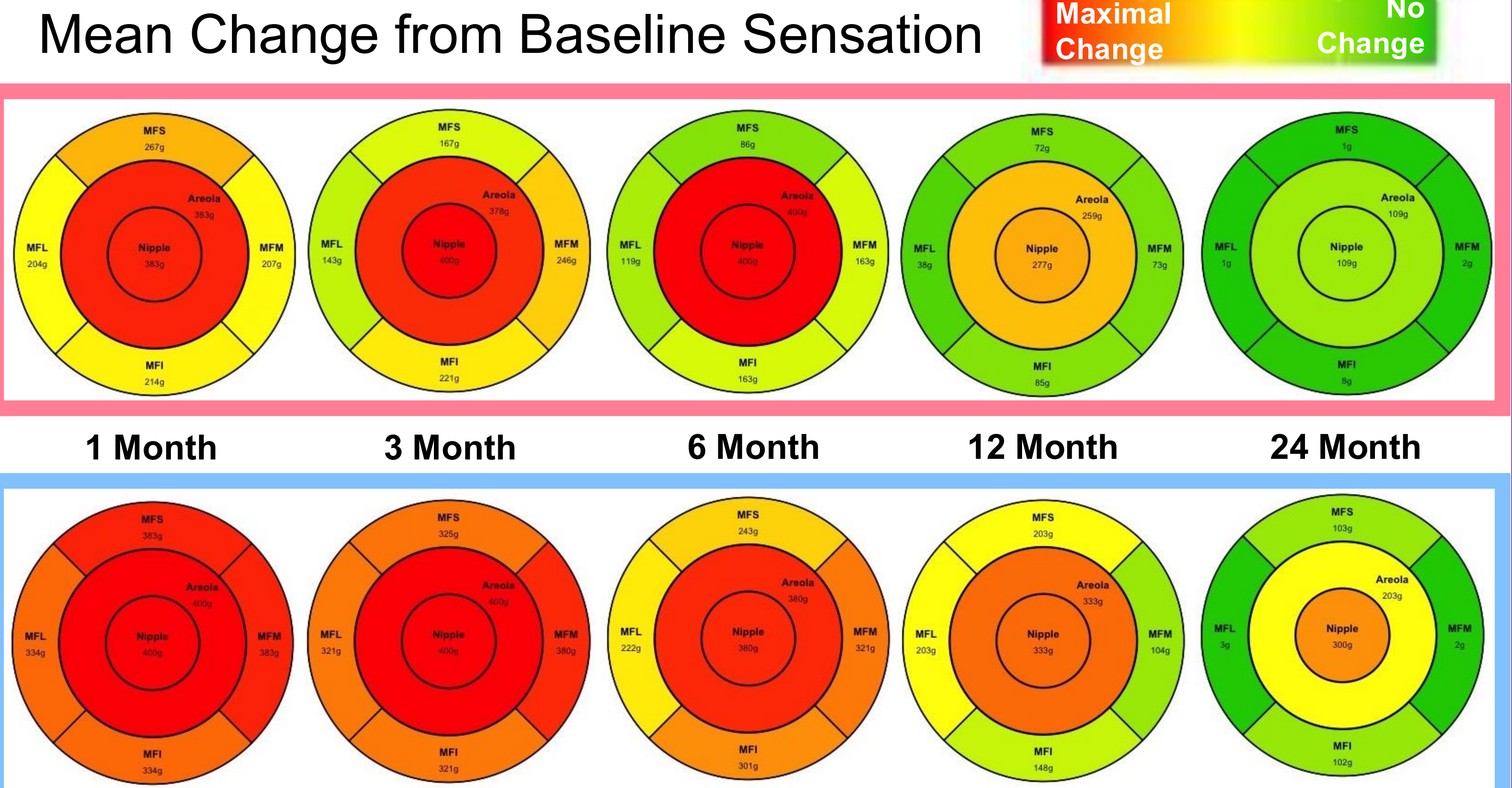


Patient-Reported Outcomes in **Neurotized** vs. **Non-Neurotized** Breasts

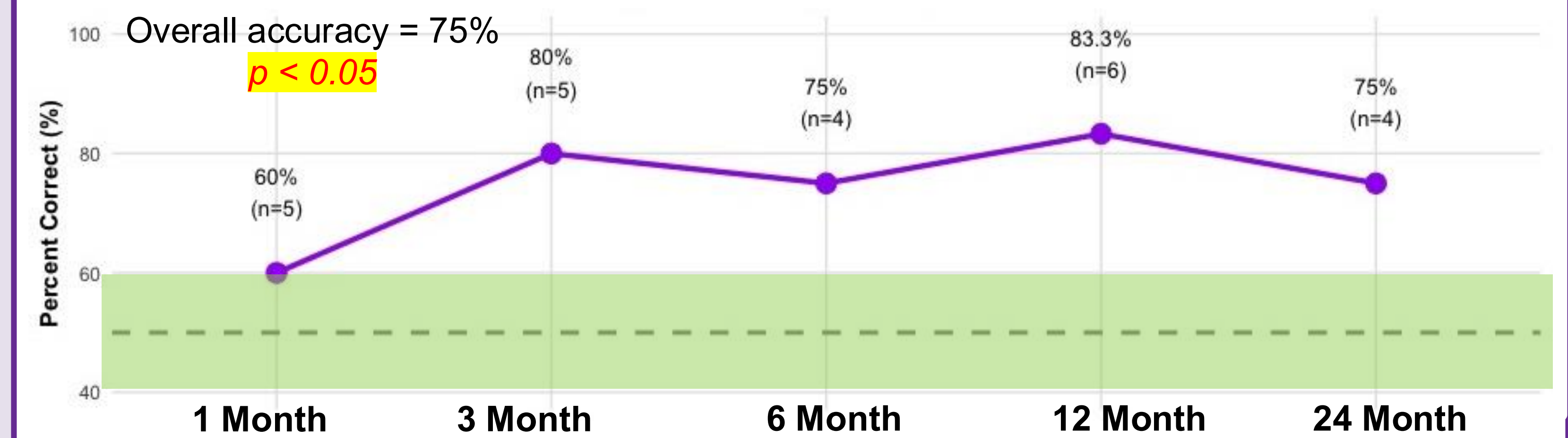


RESULTS

Return to Sensation in **Neurotized** vs. **Non-Neurotized** Breasts



Patient Ability to Correctly Guess Which Breast is **Neurotized**



CONCLUSION

- Neurotized** mastectomy flaps demonstrate **significantly faster recovery** from 1 – 12 months as compared to **Non-Neurotized** breasts, with a **45% reduction in cumulative sensory burden**. No difference in NAC.
- Patients are **correctly able to guess neurotized** breast in **75% cases**, however there are no differences in patient-reported outcome measures
- A larger sample size needed to adequately test the utility of **neurotization**