

# Treating Myofascial Pain in Nickel-Sensitive Women Exposed to Nickel Alloy Underwires in Brassieres: Clinical Case Observations

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**BACKGROUND** Chronic exposure to nickel alloys that can enter the body through percutaneous absorption may lead to inflammatory reactions such as contact dermatitis and possibly fascial adhesion formation [1]. Proper muscle function requires coordination by the fasciae and glide between fascial layers: adhesion between layers prevents glide [2]. Treatment of adhesions from scars can eliminate chronic distant myofascial pain [3]. Prevalence of nickel allergy in women is estimated at up to 17% [4]; underwire brassieres are a source of nickel exposure [5]. Clinical observations suggest that in sensitive individuals, chronic exposure to contact allergens can cause persistent fascial adhesions, and these areas without glide can be sources of pull in the myofascia. Chronic pain may result, especially with movement. Contact allergens observed to cause this effect include nickel, latex, and chemicals used in (a) clothing manufacture, (b) laundry products, (c) hair care products, and (d) leather processing. Testing is required to identify the allergen.

**METHODS** Clinical manual treatment involved massage of adhesions located deep to underwire brassiere rim support wires, until glide was restored in the fascia. Patients were instructed to hydrate before, during, and after treatment. Patients were asked to consider a behavioral treatment of wearing wire-free brassieres and practicing daily self-massage of the underwire adhesions in the shower until local pain disappeared.

**RESULTS** A retrospective chart review of 57 consecutive new female patients at least 14 years of age, treated in a NJ myofascial pain practice, showed that in 24 of the 57 women, fascial pulls were tracked from the site of pain to palpable and painful adhesions deep to underwire brassiere support wires. Illustrative cases where underwire adhesion treatment was critical to distant pain relief are described: for example, a violin student unable to play due to left upper limb pain 4/10 returned post treatment to performance with pain 0/10. Treatment conformed with the Declaration of Helsinki.

**CONCLUSIONS** Underwire adhesions were shown to be common in the population of women presenting at a myofascial pain clinic. Where indicated, clinicians should consider treatment of any such adhesions and suggest a behavioral intervention of wearing nickel-free brassieres in addition to self-massage.

## REFERENCES

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