

Daith Ear Piercing, Vagus Nerve Stimulation & Changes in Migraine Symptoms



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The research on Daith piercing for migraines is advancing quickly. For earlier research and the most recent updates, please visit www.migraine-research.org/useful-links

Daith Piercing Overview

- Vagus nerve stimulation is an established treatment for epilepsy and migraine
- Daith ear piercing passes through a ridge of cartilage innervated by the vagus nerve
- Over the last 20 years, many thousands of migraine sufferers have reported a reduction in their symptoms after a Daith. Other ear piercings do not involve the auricular branch of the vagus nerve (ABVN), and are not associated with migraine reduction
- Earlier research by the authors over the last 6 years suggests a long-lasting clinical response >12 months. Cartilage piercings heal slowly. We hypothesise a continuous, low-intensity vagal stimulation due to mild tissue irritation



We report preliminary data from a multi-centre 12-month prospective follow-up study of 1000 participants, in collaboration with a national chain of piercing studios:-

SUMMARY: Group 1: 90 individuals with F/U at 2-4 months; Group 2: 21 individuals with F/U at 12 months. Both groups report a reduction in migraine frequency of 50% or more at follow-up.

DESIGN & SETTING: Electronic questionnaires assessing qualitative/quantitative changes in migraine frequency/severity were completed by participants before, during, and after the piercing. A national chain of piercing studios in seven locations throughout the UK collaborated.

PARTICIPANTS: All sought a piercing for their migraines at Blue Banana Piercing Studios and were then invited to participate

- Group 1: 2-4m follow-up - from 1/8/22 to 14/11/22 a consecutive series of 133 people sought a piercing for their migraines, of whom 119 consented to be contacted later by email. A follow-up questionnaire was sent in January 23, 2-4 months after the piercing; 90 responded
- Group 2: 12m follow-up - from 1/4/22 to 31/5/22 a consecutive series of 31 people sought a piercing for their migraines, of whom 23 consented to be contacted later by email. A follow-up questionnaire was sent in June 23 12 months after the piercing; 22 responded

	F/U	N	f/m	age range	mean age	median migraine duration	prior migraine diagnosis	prior migraine with aura
Group 1	2-4 months	90	84/6	19-69	43	11-20 years	91%	58%
Group 2	12 months	22	19/3	24-63	41	11-20 years	91%	64%

INTERVENTION: Experienced piercers inserted 100% titanium jewellery through the *crus helix* cartilage immediately above the auditory meatus, an area innervated by the ABVN.

QUANTITATIVE OUTCOMES: The reduction in headache is similar at both 2-4 and 12 months

Quantitative changes in migraine frequency at follow-up	2-4 months, N=90			12 months, N=22		
	Before	After	Change	Before	After	Change
Days per month:						
Migraines	6.3	3.2	-50%	7.8	3.6	-55%
Off work or in bed	3.1	1.3	-57%	2.7	1.1	-58%
Symptom-free	9.9	15.6	+57%	7.4	13.7	+86%

QUALITATIVE OUTCOMES at 12 months: Subjectively, 64% of participants report their migraines have stopped or improved markedly at 12m.

Participants report some drop in efficacy over 12 months. This gradual drop is consistent with the piercing healing slowly

Qualitative improvement in symptoms	2-4 months, N=90		12 months, N=22		Subjective efficacy of Daith				
					2-4 months, N=90		12 months, N=22		
Stopped	12	13%	3	14%	Effect improving	11	12%	2	10%
Much better	53	59%	11	50%	Not wearing off	56	62%	9	43%
A little better	14	16%	5	23%	Begun to wear off	13	14%	5	24%
No change	8	9%	2	9%	Mostly worn off	3	3%	1	5%
Worse	3	3%	1	5%	Completely worn off	2	2%	1	5%
					Never had an effect	5	6%	3	14%

DISCUSSION:

Since the piercing is clearly visible, an RCT is not easy to design. A purely placebo response is unlikely because of the strength and duration of the reported effect. Here, we report a selection of the metrics we have collected. Other related metrics are consistent with these findings. These will be included in a full paper to be published shortly, along with further 12 month results presently under analysis. They will also be available on www.migraine-research.org

Daith piercing is a simple and inexpensive primary care treatment that does not require extensive medical expertise. Experienced piercers can be trained for migraine piercing without difficulty. It could potentially be made available to low income countries at minimal cost through local piercers, where even conventional preventative drugs are beyond the means of most. By comparison, Botox and CGRP Mabs cost several thousand pounds a year.

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