

The Location of Peak Upper Trapezius Muscle Activity During Submaximal Contractions is not Associated With the Location of Myofascial Trigger Points: New Insights Revealed by High-density Surface EMG

Barbero, Marco; Falla, Deborah; Mafodda , L; Cescon, Corrado; Gatti, Roberto

DOI:

[10.1097/AJP.0000000000000373](https://doi.org/10.1097/AJP.0000000000000373)

[10.1097/AJP.0000000000000373](https://doi.org/10.1097/AJP.0000000000000373)

License:

Creative Commons: Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)

Document Version

Peer reviewed version

Citation for published version (Harvard):

Barbero, M, Falla, D, Mafodda , L, Cescon, C & Gatti, R 2016, 'The Location of Peak Upper Trapezius Muscle Activity During Submaximal Contractions is not Associated With the Location of Myofascial Trigger Points: New Insights Revealed by High-density Surface EMG: New Insights Revealed by High-density Surface EMG', *Clinical Journal of Pain*. <https://doi.org/10.1097/AJP.0000000000000373>, <https://doi.org/10.1097/AJP.0000000000000373>

[Link to publication on Research at Birmingham portal](#)

Publisher Rights Statement:

Checked 29/07/2016

General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- Users may freely distribute the URL that is used to identify this publication.
- Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
- Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

Download date: 23. Sep. 2021

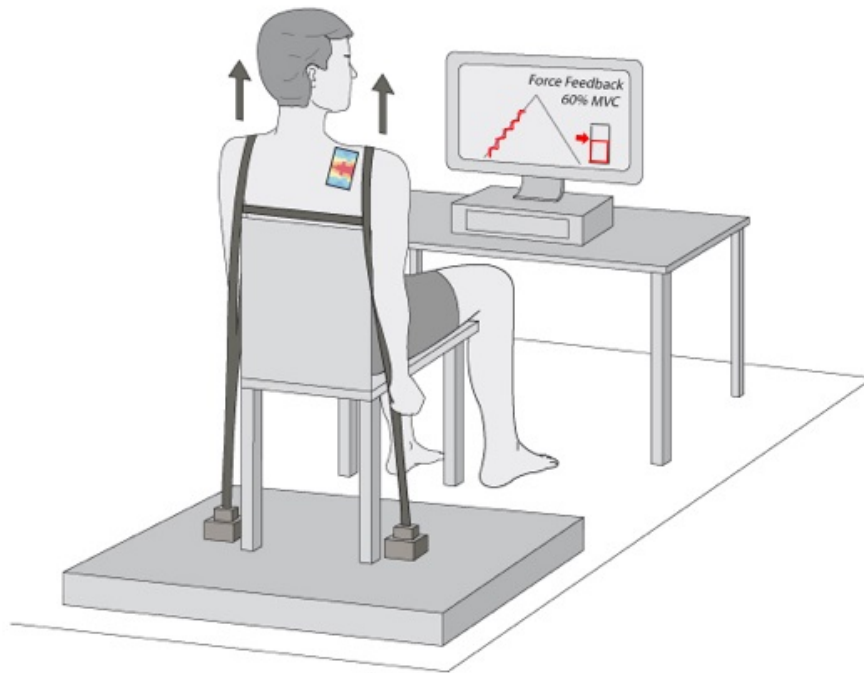


Figure 1

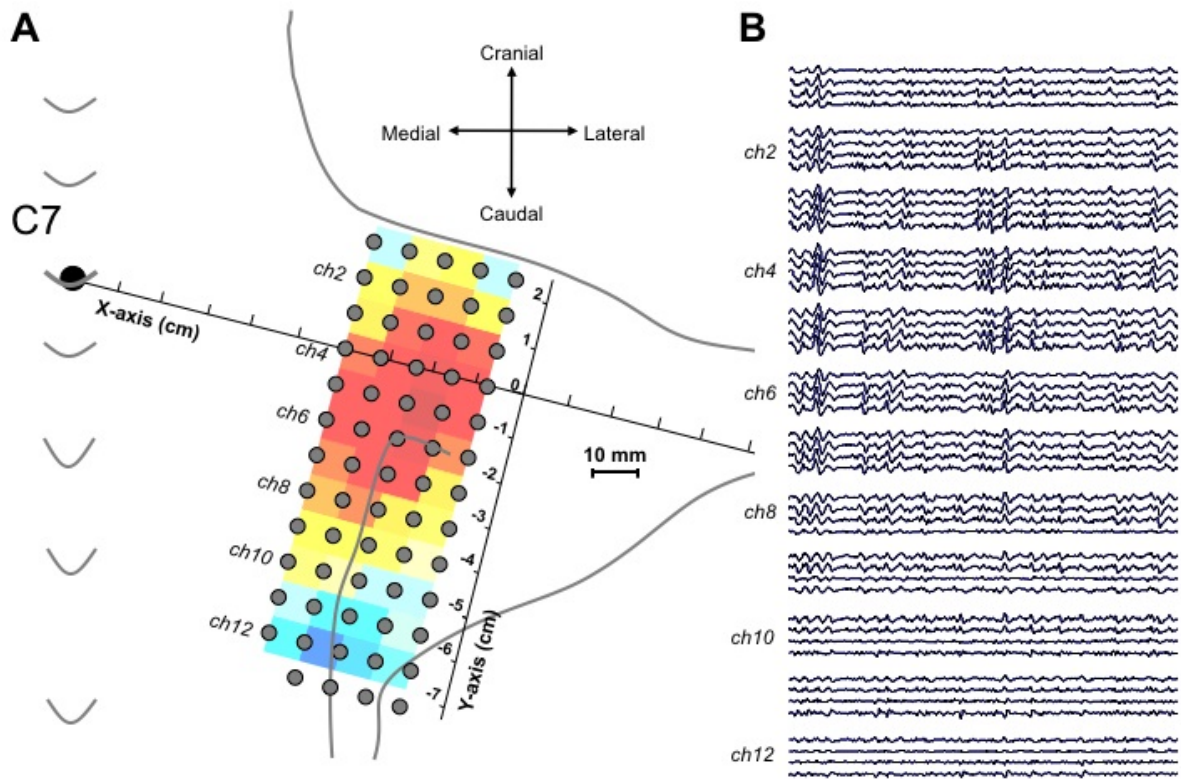


Figure 2

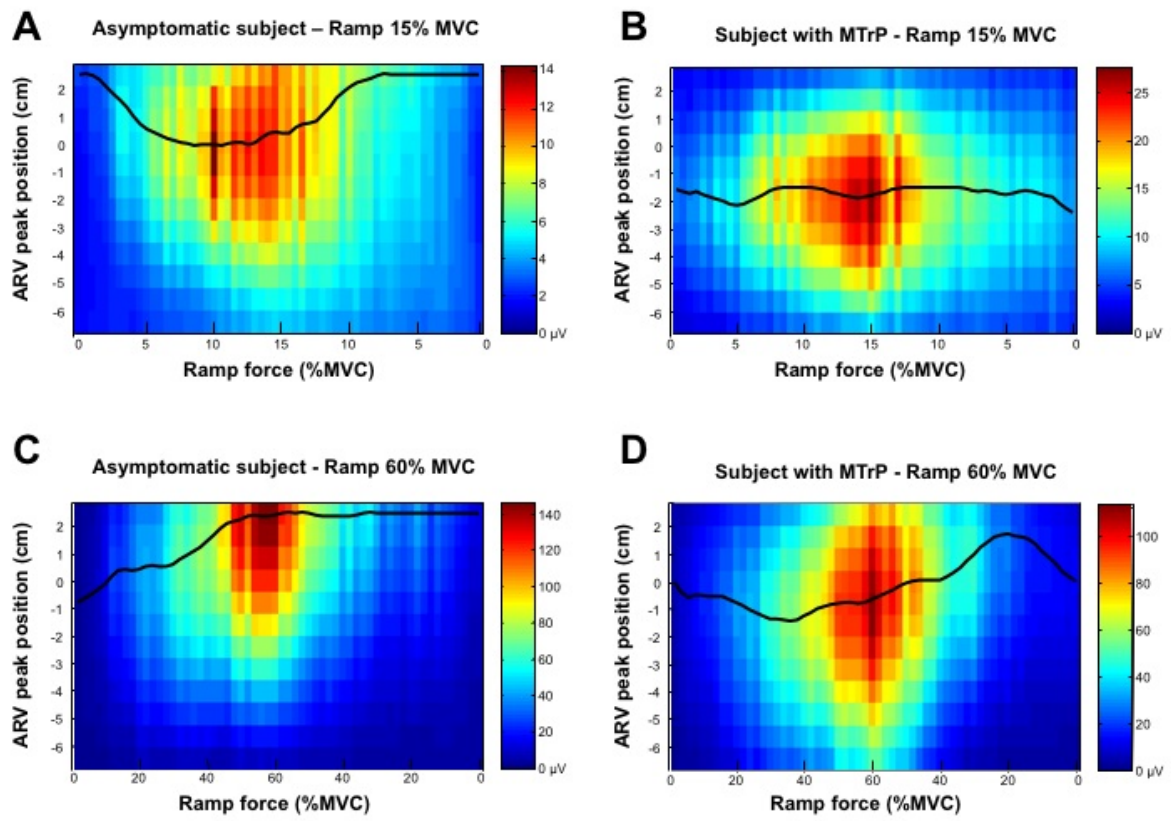


Figure 3

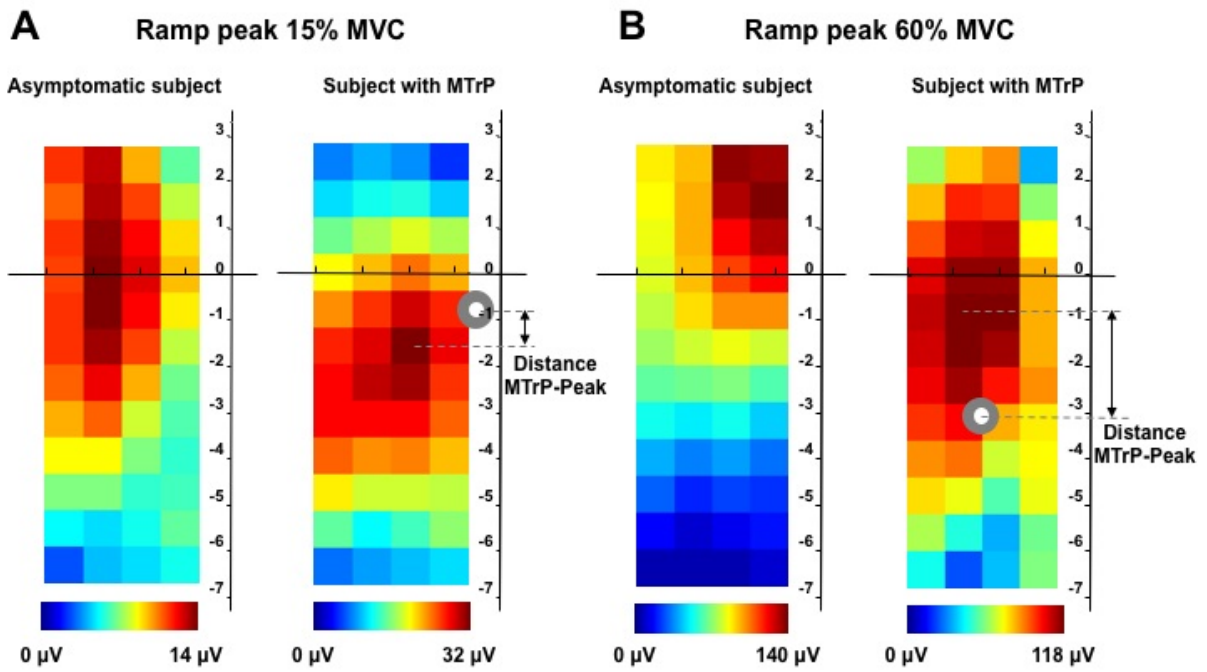


Figure 4

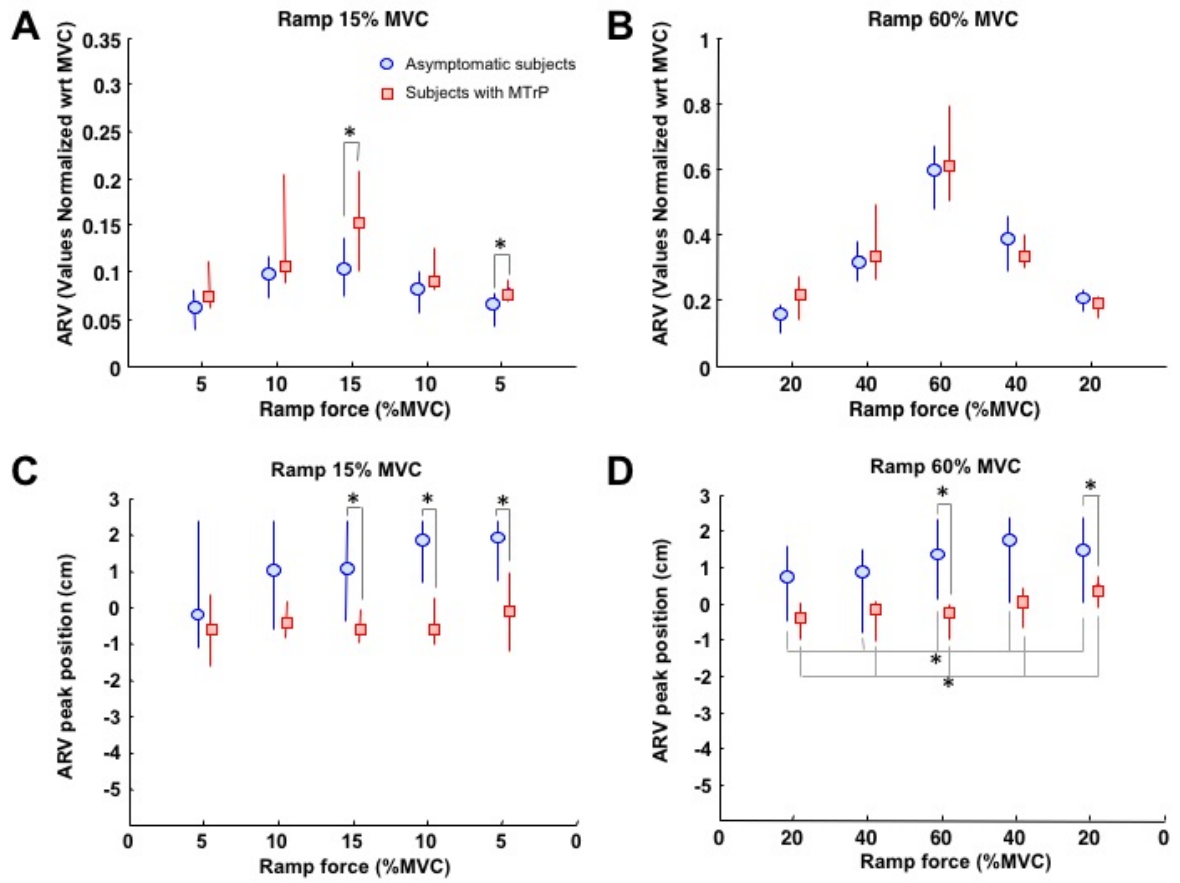


Figure 5

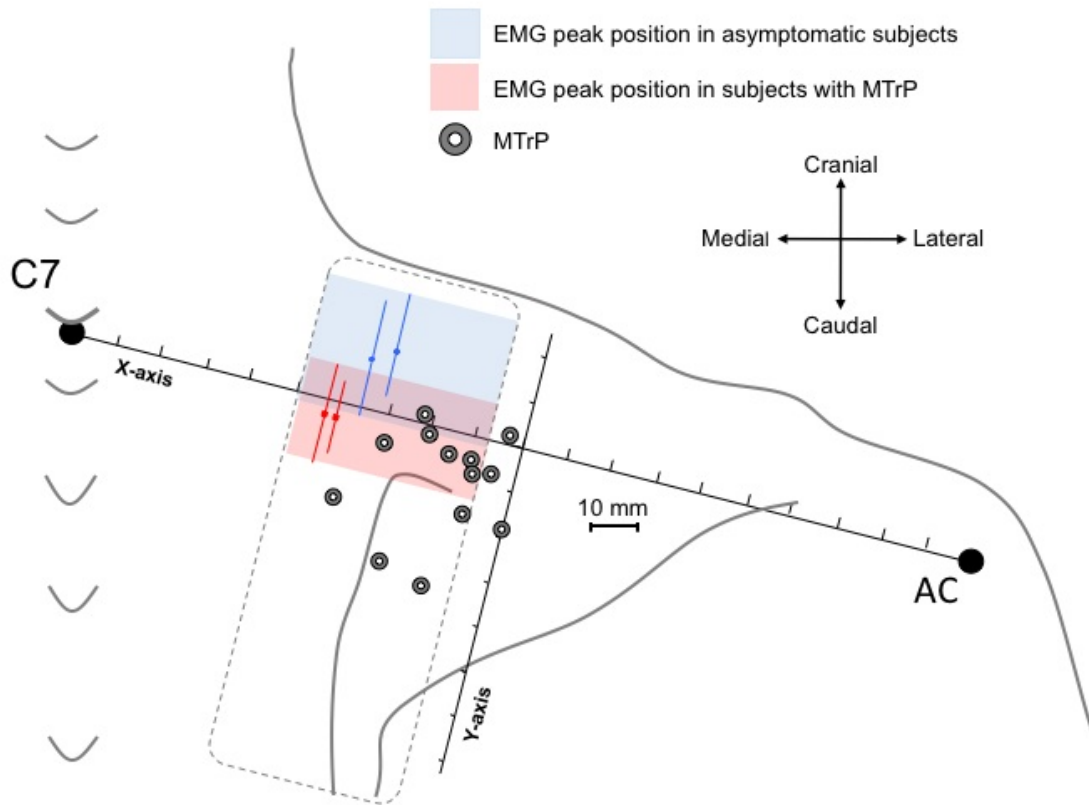


Figure 6

Subject	Taut band	Spot tenderness	Pain recognition	Referred pain	MTrP Coordinate (x cm; y cm)	PPT (Kg/cm ²)
1	+	+	+	-	(-0.9 ; -1.7)	1.4
2	+	+	+	-	(-2.0 ; -0.2)	1.6
3	+	+	+	-	(0; -1.8)	1.8
4	+	+	+	-	(-1 ; -0.5)	1.7
5	+	+	-	+	(-2.2 ; 0.2)	1.5
6	+	+	+	-	(-0.5 ; -0.7)	1.8
7	+	+	+	+	(-2.4 ; -3.1)	1.6
8	+	+	+	+	(-2.9 ; -0.6)	2.1
9	+	+	+	+	(-1.5 ; -0.5)	1.1
10	+	+	+	+	(-0.9 ; -0.8)	1.9
11	+	+	+	+	(-3.7 ; -2)	1.3
12	+	+	+	+	(-0.3 ; 0.2)	1.3
13	+	+	+	+	(-1.4 ; -3.4)	1.1

Table 1

Force ramp	Force errors (%TF)		p
	Asymptomatic	MTrP	
Up 15%	4.7 (3.4)	6.1 (3.6)	0.574
Down 15%	5.9 (2.2)	6.1 (2.3)	0.538
Up 60%	4.2 (2.6)	4.7 (2.6)	0.538
Down 60%	6.6 (3.7)	7.3 (4)	0.611

Table 2