

CORRECTION

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Correction to: Health efficacy of electrically operated automated massage on muscle properties, peripheral circulation, and physio-psychological variables: a narrative review

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The authors would like to apologize for failing to make proper attribution to texts in the original article. The citation of information adapted from Kerautret et al. [55] was mistakenly overlooked on certain pages and has been corrected as follows.

On page 1–2:

“The effects are nonetheless furthered and aggravated through overuse of computers and smartphone alike, which consequently lead toward postural deformity, neck and shoulder pain as evidenced by research, and when prolonged and recurred, these habits gradually degrade our overall health. [55]”

On page 3–4:

“The authors’ approach to unilateral and bilateral temporomandibular disorder was targeted to a specific population, highly technical and very expensive. Other studies on investigating the robotic massage effects on masseter and temporal muscles had varying degrees of pressure exerted, which ranged from 100 g to 1.5 kg per square area [2, 3, 20, 23, 46, 60]. The most effective outcome was derived at approx. 800 g on small facial muscles. The authors further reported that the robotic massage decreased muscle pain and promoted functional motor recovery in patients. [55]”

On page 17–18:

“In such cases, these autonomous devices can administer simple massage techniques at a limited scale for preventive measures. Complex maneuvers such as stretching, strengthening and joint mobilization, which cannot be performed by robotic devices, can be administered by a professional therapist; thus, providing compounding benefits. [55]”

“The readjustment to ongoing feedback on the scar tissue ensures treatment efficacy. Further studies on automated massage modalities are required and until then, mechanical apparatus such as massage chair and robots cannot be entirely integrated and therefore, remain another tool at the disposal of medical practitioners. [55]”

Furthermore, it was realized that an attribution text for a segment of the Table 1—“Robotic massage” was inadequately stated. The corrected Table 1 attribution is included below. The framework for “Table 1 Effects of mechanical and automated massage on muscle properties” was adapted from Kerautret et al. [55].

Robotic massage

Koga et al. [23]	CT	11 healthy	WAO-1	Masseter and temporalis	1 session of effleurage or petrissage for 1–5 min	1–10 N	2 groups: EG1: robotic; EG2: manual	Skin temperature, size of masseter muscle	Both groups: Temperature ↑ Muscle size ↑
Ishi et al. [20]	CCT	18 healthy	WAO-1	Masseter and temporalis	1 session of effleurage or petrissage for 2 min	5 N	2 groups: EG1: robotic; EG2: manual	Skin temperature, width of masseter muscle	Both groups: Temperature ↑ Muscle width ↑
Ariji et al. [60]	CCT	16 healthy and 2 with TMJ disorder	WAO-1	Masseter and temporalis	7 bouts each 1 min of effleurage or petrissage. Totally 3 sessions in 2 weeks	12 N	Applied intensity-based groups	VAS-10, masseter stiffness index	Group 6–10 N: VAS score ↑ Masseter stiffness index ↑
Solis et al. [46]	CT	12 healthy	WAO-1 and WAO-1R	Masseter and temporalis	1 session of effleurage or petrissage for 1 min	12 N	2 robotic massage groups EG1: WAO-1; EG2: WAO-1R	Masseter thickness, skin temperature	EG2 > EG1: Muscle thickness ↑ NS temperature
Ariji et al. [2]	CT	15 with TMJ disorder	WAO-1	Masseter and temporalis	7–10 bouts for 1 min. 3 times a week for 6 weeks	8–12 N	2 groups EG1: unilateral; EG2: bilateral	Masseter thickness, VAS-10	Both groups: Thickness ↓ VAS score ↑
Luo et al. [30]	RCT	5 healthy	Multi-finger robot hand	Shoulder	1 session of kneading for 10 min	1–20 N	3 groups EG1: manual; EG2: robotic hand CON	Muscle activity	EG1 & EG2: Muscle activity ↓
Ariji et al. [3]	RT	41 with temporomandibular disorder	WAO-1	Masseter and temporalis	7 bouts for 1 min. 5 times every 2 weeks for 12 weeks	6–14 N	2 groups EG1: effective; EG2: ineffective	Muscle thickness VAS-10	Symptomatic muscle thickness ↓ VAS score ↑

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Reference

55. Y. Kerautret, F. Di Rienzo, C. Eyssautier, A. Guillot, Selective effects of manual massage and foam rolling on perceived recovery and performance: current knowledge and future directions toward robotic massages. *Front. Physiol.* (2020). <https://doi.org/10.3389/fphys.2020.598898>

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