



CORRECTION

## Correction to: An International Multidisciplinary Delphi-Based Consensus on Heat Therapy in Musculoskeletal Pain

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Correction to: Pain Ther  
<https://doi.org/10.1007/s40122-022-00419-4>

In the sentence beginning ‘The panelists strongly agreed that HT may be indicated...’ in this article, the value ‘91%’ should have read ‘93%’. The correct sentence should have read:

The panelists strongly agreed that HT may be indicated in non-specific low back pain (95%)

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The original article can be found online at <https://doi.org/10.1007/s40122-022-00419-4>.

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and chronic nociceptive pain (93%), whereas it is not indicated in acute inflammatory joint pain (95%).

In Table 2 of this article, the data in the section headed ‘Time and modalities of heat treatment,’ the values were mistakenly listed under each row. The correct Table 2 should have read:

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**Table 2** Delphi results

Topics	Disagreement (score 1–2) (%)	Agreement (score 3–5) (%)
Mechanism of action of heat on muscle		
(1.1) Heat application activates temperature-sensitive nerve endings (thermoreceptors), which in turn initiate signals that block the processing of pain signals	9	91
(1.2) The pressure used to apply some superficial heat therapy may activate proprioceptors, which in turn block the processing of nociceptive signals	25	75
(1.3) Heat can contribute to the healing process	9	91
(1.4) Heat can improve muscle flexibility	5	95
(1.5) Supplemental heat can improve muscle strength during physical activity	37	63
(1.6) Heat increases blood flow and metabolism	0	100
Types of musculoskeletal pain eligible for heat treatment		
(2.1) Superficial heat therapy may be indicated in non-specific low back pain	5	95
(2.2) Superficial heat therapy may be indicated in acute nociceptive musculoskeletal pain (neck or knee pain)	34	66
(2.3) Superficial heat therapy may be indicated in chronic nociceptive musculoskeletal pain (neck or knee pain)	7	93
(2.4) Superficial heat therapy may be indicated in tendinosis	20	80
(2.5) Superficial heat therapy may be indicated in delayed-onset muscle soreness (DOMS)	17	83
(2.6) Superficial heat therapy may be indicated in osteoarthritis	22	78
(2.7) Superficial heat therapy may be indicated in mechanical pain	17	83
(2.8) Superficial heat therapy may be indicated in strain and sprain during the chronic phase of rehabilitation (or after the acute phase of rehabilitation)	14	86
(2.9) Superficial heat therapy is not indicated in acute inflammatory joint pain	5	95
Efficacy of heat therapy		
(3.1) Superficial heat therapy improves daily living activities	22	78
(3.2) Superficial heat therapy can reduce disability in low back pain	13	87
(3.3) Superficial heat therapy has a short-term effect on pain relief	8	92
(3.4) Superficial heat therapy can contribute to a long-term effect if integrated in a multimodal approach to pain	12	88
(3.5) Superficial heat therapy can reduce the need of analgesics	7	93
(3.6) Superficial heat therapy can prevent worsening of low back pain	30	70
Time and modalities of heat treatment		
(4.1) In non-specific low back pain:		

**Table 2** continued

Topics	Disagreement (score 1–2) (%)	Agreement (score 3–5) (%)
(4.1.1) Superficial heat therapy may be used alone in some patients with mild acute or chronic pain	34	66
(4.1.2) Superficial heat therapy is more effective if applied early in acute low back pain	34	66
(4.1.3) Superficial heat therapy should be used in association with analgesics in moderate-severe acute and chronic pain	12	88
(4.2) In neck pain:		
(4.2.1) Superficial heat therapy may be used alone in some patients with mild acute and chronic pain	32	68
(4.2.2) Superficial heat therapy should be used in association with analgesics in moderate-severe acute and chronic pain	17	83
(4.3) In osteoarthritis:		
(4.3.1) Superficial heat therapy may be used alone in some patients with mild acute and chronic pain	43	57
(4.3.2) Superficial heat therapy should be used in association with analgesics in moderate-severe acute and chronic pain	22	78
(4.3.3) Superficial heat therapy can be used alone or as an adjuvant therapy in osteoarthritis	29	71
(4.3.4) Superficial Heat therapy is more effective if associated with kinesiotherapy/exercise	10	90
Maximizing compliance to heat therapy		
(5.1) Superficial heat therapy can be used as self-help with caution in mild pain	5	95
(5.2) Superficial heat therapy should not be used as self-help in moderate-severe pain	49	51
(5.3) Superficial heat therapy should not be self-prescribed in uninvestigated recurrent pain	11	89
(5.4) Superficial heat therapy should not be discontinued right after the resolution of pain	42	58
(5.5) Patients using superficial heat therapy should avoid overexertion	29	71
(5.6) Heat wraps are well tolerated by the patients	7	93
Safety of heat therapy (based on heat wraps)		
(6.1) Superficial Heat therapy has fewer side effects than pharmacological treatment	11	89
(6.2) Heat wraps have a good safety profile	7	93

**Table 2** continued

Topics	Disagreement (score 1–2) (%)	Agreement (score 3–5) (%)
(6.3) Compared to other types of superficial heat therapy, heat wraps have a minor risk of burns	18	82
(6.4) Heat wraps are safe also for night use	41	59
(6.5) Caution is required in subjects with active autoimmune diseases, cancer, active osteoarthritis, neurological diseases (multiple sclerosis, amyotrophic lateral sclerosis, spinal injuries), zoster and skin inflammatory conditions and circulation defects	4	96
(6.6) Skin integrity is required for superficial heat therapy	3	97
(6.7) The ideal temperature in superficial heat therapy, regarding efficacy and safety, is approximately 40 °C	5	95
Wrong beliefs and common errors in the prescription of heat therapy		
(7.1) Superficial heat therapy can be used also for dysmenorrhea	22	78
(7.2) Superficial heat therapy can be used to prevent any pain associated to atmospheric pressure changes	61	39
(7.3) Superficial heat therapy can be used to avoid joint deterioration	74	26
(7.4) The higher the temperature reached by the superficial heat therapy, the better the effect	79	21
(7.5) The time needed to increase the temperature of deep tissue depends on the subcutaneous fat thickness	20	80
Role of heat therapy as a prevention of muscular damage in athletes		
(8.1) Application of superficial heat therapy 4 h before exercise can help to prevent pain and muscular injuries	54	46
(8.2) Application of superficial heat therapy after intense exercise can prevent pain	49	51
(8.3) Superficial heat therapy is comparable to stretching in the prevention of muscular damage	64	36
(8.4) Superficial heat therapy is better than cold therapy when applied after exercise	68	32
(8.5) Superficial heat therapy can help to enhance range of movement and flexibility	8	92
(8.6) Superficial heat therapy can reduce pain before the application of any other therapy	29	71

The original article has been corrected.

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