

Table S1. Search terms used in Web of Science, PubMed, Scopus and in the Conference Proceedings of the International Symposium on Biomechanics and Medicine in Swimming (BMS) databases. Also it is detailed the sources where the additional records were found.

Web of Science

TS=((((Swimming) AND ((((wetsuit) OR (wet suit)) OR (wet-suit)) OR (neoprene)) OR (thermal swimsuit)) OR (floating swimsuit))))

PubMed

(((Swimming) AND ((((wetsuit) OR (wet suit)) OR (wet-suit)) OR (neoprene)) OR (thermal swimsuit) OR (floating swimsuit))))

Scopus

TITLE-ABS-KEY (((((swimming) AND ((((wetsuit) OR (wet suit)) OR (wet-suit)) OR (neoprene)) OR (thermal swimsuit)) OR (floating swimssuit))))))

BMS

(All Fields:swimming) AND (All Fields:wetsuit OR All Fields:wet suit OR All Fields:wet-suit OR All Fields:neoprene OR All Fields:thermal swimsuit OR All Fields:floating swimsuit)

Additional records

1. Nicolaou, K.D.; Kozusko, J.M.; Bishop, P.A. The Effect of wetsuits on swim performance. *J. Swim. Res.* 2001, 15, 20-26. Found on EBSCO: SPORTDiscus.
 2. Pavlik, J.; Pupiš, M.; Pavlović, R. Variability of swimming performance depending on the use of wetsuit. *Res. Physical Education Sport Health.* 2015, 4. Found on EBSCO: SPORTDiscus.
 3. Lowden, B.J.; McKenzie, D.; Ridge, B.R. Effects of clothing and water temperature on swim performance. *Aust. J. Sci. Med. Sport.* 1992, 24, 33-33. Found on GoogleScholar.
-

TS: Topic; TITLE-ABS-KEY: Title, abstract and keywords.

Table S2. Quality assessment of the selected studies after researchers consensus.

Authors (year)	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Total score	Total score (%)	Agreement (%)
Parsons et al. (1986) [1]	0	1	1	1	0	0	0	1	4	0.50	87.5
Trappe et al (1996) [7]	0	1	1	1	0	0	1	1	5	0.63	87.5
Chatard et al. (1995) [9]	1	1	1	1	0	0	1	1	6	0.75	100
Perrier and Monteil (2001) [10]	0	1	1	1	0	0	1	1	5	0.63	87.5
Toussaint et al. (1989) [12]	0	1	1	1	0	0	1	1	5	0.63	100
Cordain and Kopriva (1991) [14]	1	1	1	1	1	0	1	1	7	0.88	87.5
De Lucas et al. (2000) [15]	1	1	1	1	0	0	1	1	6	0.75	100
Gay et al. (2020) [16]	0	1	1	1	1	0	1	1	6	0.75	75
Zacca et al. (2021) [19]	0	1	1	1	0	0	1	NA	4	0.50	87.5
Hue, Benavente and Chollet (2003) [20]	1	1	1	1	0	0	1	1	6	0.75	100
Perrier and Monteil (2004) [21]	0	1	1	1	0	0	1	1	5	0.63	87.5
Tomikawa and Nomura (2009) [22]	0	1	1	1	0	0	1	1	5	0.63	100
Tomikawa et al. (2003) [23]	1	1	0	1	0	0	0	1	4	0.50	75.0
Tomikawa, Shimoyama and Nomura (2008) [24]	0	1	1	1	1	1	1	1	7	0.88	87.5
Perrier and Monteil (2002) [26]	0	1	1	1	0	0	1	1	5	0.63	87.5
Hatteau et al. (2007) [27]	0	1	1	1	0	0	1	1	5	0.63	100
Gay et al. (2021) [28]	0	1	1	1	1	1	1	1	7	0.88	100
Yamamoto et al. (1999) [29]	0	0	1	0	0	0	1	1	3	0.38	87.5
Santos, Bento and Rodacki (2011) [30]	0	1	1	1	1	1	1	1	7	0.88	75
Trappe et al. (1995) [31]	0	1	1	1	0	0	1	1	5	0.63	87.5
Rois et al., (2021) [32]	0	1	1	1	0	0	1	0	4	0.50	87.5
Nicolaidis, Sousa and Knechtle, (2018) [34]	1	1	1	1	1	0	1	1	7	0.88	87.5
Ulsamer et al (2014) [35]	0	0	0	1	1	0	0	1	3	0.38	87.5

Question 1: Were the criteria for inclusion in the sample clearly defined?, Question 2: Were the study subjects and the setting described in detail?, Question 3: Was the exposure measured in a valid and reliable way?, Question 4: Were objective, standard criteria used for measurement of the condition?, Question 5: Were confounding factors identified?, Question 6: Were strategies to deal with confounding factors stated?, Question 7: Were the outcomes measured in a valid and reliable way? and Question 8: Was appropriate statistical analysis used? Total score: ≥ 0.75 'High Quality' and < 0.75 'Low Quality'. Agreement: between the two researchers. Non-applicable (NA).

Table S3. Summary of the studies using different wetsuits types and swimmers or triathletes.

Sample	Wetsuit type			
	Full body wetsuit	Sleeveless long	Sleeveless short	Other/no info
Swimmers	[7-10, 14-16, 24, 31, 33, 35, 37-38] (13)	[7-8, 12-15, 31, 36] (7)	[7] (1)	[34, 39, 40] (3)
Triathletes	[9, 10, 15-16, 25-26, 28-29, 32, 35, 37] (11)	[1, 10, 12, 15, 30, 36] (6)	-	[39] (1)
Swimmers and triathletes	[9-10, 15-16, 35] (5)	[10, 12, 15, 36] (4)	-	[39] (1)

Each number indicated the study reference and the total number of studies is show between parentheses.