Appendix 1. Literature search strategy example for PubMed (MEDLINE)

Search syntax performed:

"RSA" OR "repeated sprint ability" OR "repeated sprint activity" OR "RS performance" OR "repeated sprint performance" OR "repeated sprint" OR "repeated sprint exercise" OR "repeated sprint running" OR "repeated sprint cycling"

AND

"time of day" OR "time-of-day" OR "daily variation" OR "daily fluctuation" OR "diurnal variation" OR "diurnal fluctuation" OR "circadian rhythm" OR "circadian variation".

Filters:

Publication date from 1984/01/01 to 2019/12/31

Search results:

N=23

1: Pullinger SA, Oksa J, Clark LF, Guyatt JWF, Newlove A, Burniston JG, Doran DA, Waterhouse JM, Edwards BJ. Diurnal variation in repeated sprint performance cannot be offset when rectal and muscle temperatures are at optimal levels (38.5°C). Chronobiol Int. 2018 Aug;35(8):1054-1065. doi: 10.1080/07420528.2018.1454938. Epub 2018 Mar 22. PubMed PMID: 29566344.

2: Phomsoupha M, Berger Q, Laffaye G. Multiple Repeated Sprint Ability Test for Badminton Players Involving Four Changes of Direction: Validity and Reliability (Part 1). J Strength Cond Res. 2018 Feb;32(2):423-431. doi: 10.1519/JSC.0000000000002307. PubMed PMID: 29084095.

3: Born DP, Faiss R, Willis SJ, Strahler J, Millet GP, Holmberg HC, Sperlich B. Circadian variation of salivary immunoglobin A, alpha-amylase activity and mood in response to repeated double-poling sprints in hypoxia. Eur J Appl Physiol. 2016 Jan;116(1):1-10. doi: 10.1007/s00421-015-3236-3. Epub 2015 Aug 13. PubMed PMID: 26269448.

4: Pullinger SA, Oksa J, Brocklehurst EL, Iveson RP, Newlove A, Burniston JG, Doran DA, Waterhouse JM, Edwards BJ. Controlling rectal and muscle temperatures:

Can we offset diurnal variation in repeated sprint performance? Chronobiol Int. 2018 Jul;35(7):959-968. doi: 10.1080/07420528.2018.1444626. Epub 2018 Mar 20. PubMed PMID: 29557676.

5: Yang HL, Zhou WJ, Gu CJ, Meng YH, Shao J, Li DJ, Li MQ. Pleiotropic roles of melatonin in endometriosis, recurrent spontaneous abortion, and polycystic ovary syndrome. Am J Reprod Immunol. 2018 Jul;80(1):e12839. doi: 10.1111/aji.12839. Epub 2018 Mar 1. Review. PubMed PMID: 29493042.

6: Lopes-Silva JP, Santos JFDS, Franchini E. Can caffeine supplementation reverse the effect of time of day on repeated-sprint exercise performance? Appl Physiol Nutr Metab. 2019 Feb;44(2):187-193. doi: 10.1139/apnm-2018-0373. Epub 2018 Jul 30. PubMed PMID: 30058345.

7: Racinais S, Perrey S, Denis R, Bishop D. Maximal power, but not fatigability, is greater during repeated sprints performed in the afternoon. Chronobiol Int. 2010 Jun;27(4):855-64. doi: 10.3109/07420521003668412. PubMed PMID: 20560715.

8: Aloui A, Chaouachi A, Chtourou H, Wong del P, Haddad M, Chamari K, Souissi N. Effects of Ramadan on the diurnal variations of repeated-sprint performances. Int J Sports Physiol Perform. 2013 May;8(3):254-62. Epub 2012 Sep 4. Erratum in: Int J Sports Physiol Perform. 2013 Jul;8(4):350. PubMed PMID: 22952200.

9: Zarrouk N, Chtourou H, Rebai H, Hammouda O, Souissi N, Dogui M, Hug F. Time of day effects on repeated sprint ability. Int J Sports Med. 2012 Dec;33(12):975-80. doi: 10.1055/s-0032-1312626. Epub 2012 Jul 10. PubMed PMID: 22782387.

10: Hammouda O, Chtourou H, Chahed H, Ferchichi S, Kallel C, Miled A, Chamari K, Souissi N. Diurnal variations of plasma homocysteine, total antioxidant status, and biological markers of muscle injury during repeated sprint: effect on performance and muscle fatigue--a pilot study. Chronobiol Int. 2011 Dec;28(10):958-67. doi: 10.3109/07420528.2011.613683. PubMed PMID: 22080741.

11: Pullinger SA, Brocklehurst EL, Iveson RP, Burniston JG, Doran DA, Waterhouse JM, Edwards BJ. Is there a diurnal variation in repeated sprint ability on a non-motorised treadmill? Chronobiol Int. 2014 Apr;31(3):421-32. doi:

10.3109/07420528.2013.865643. Epub 2013 Dec 16. PubMed PMID: 24328815.

12: Chtourou H, Engel FA, Fakhfakh H, Fakhfakh H, Hammouda O, Ammar A, Trabelsi K, Souissi N, Sperlich B. Diurnal Variation of Short-Term Repetitive Maximal Performance and Psychological Variables in Elite Judo Athletes. Front Physiol. 2018 Oct 26;9:1499. doi: 10.3389/fphys.2018.01499. eCollection 2018. PubMed PMID: 30416454; PubMed Central PMCID: PMC6212582.

13: Bishop D, Spencer M, Duffield R, Lawrence S. The validity of a repeated sprint ability test. J Sci Med Sport. 2001 Mar;4(1):19-29. PubMed PMID: 11339490.

14: Graham MJ, Lucas SJ, Francois ME, Stavrianeas S, Parr EB, Thomas KN, Cotter JD. Low-Volume Intense Exercise Elicits Post-exercise Hypotension and Subsequent Hypervolemia, Irrespective of Which Limbs Are Exercised. Front Physiol. 2016 May 31;7:199. doi: 10.3389/fphys.2016.00199. eCollection 2016. PubMed PMID: 27303310; PubMed Central PMCID: PMC4885852.

15: Racinais S, Connes P, Bishop D, Blonc S, Hue O. Morning versus evening power output and repeated-sprint ability. Chronobiol Int. 2005;22(6):1029-39. PubMed PMID: 16393706.

16: Numata T, Kishida Y, Jimbo Y, Kotani K. Circadian changes of influence of swallowing on heart rate variability with respiratory-phase domain analysis. Conf Proc IEEE Eng Med Biol Soc. 2013;2013:5377-80. doi: 10.1109/EMBC.2013.6610764. PubMed PMID: 24110951.

17: Chtourou H, Hammouda O, Souissi H, Chamari K, Chaouachi A, Souissi N. Diurnal variations in physical performances related to football in young soccer players. Asian J Sports Med. 2012 Sep;3(3):139-44. PubMed PMID: 23012632; PubMed Central PMCID: PMC3445640.

18: Houtveen JH, Hamaker EL, Van Doornen LJ. Using multilevel path analysis in analyzing 24-h ambulatory physiological recordings applied to medically unexplained symptoms. Psychophysiology. 2010 May 1;47(3):570-8. doi: 10.1111/j.1469-8986.2009.00951.x. Epub 2009 Dec 22. PubMed PMID: 20030762.

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20: Palesh O, Zeitzer JM, Conrad A, Giese-Davis J, Mustian KM, Popek V, Nga K, Spiegel D. Vagal regulation, cortisol, and sleep disruption in women with metastatic breast cancer. J Clin Sleep Med. 2008 Oct 15;4(5):441-9. PubMed PMID: 18853702; PubMed Central PMCID: PMC2576311.

21: Miyamoto M, Ichimaru Y, Katayama S. [Heart rate variability]. Nihon Rinsho. 1992 Apr;50(4):717-22. Review. Japanese. PubMed PMID: 1619751.

22: van Eekelen AP, Houtveen JH, Kerkhof GA. Circadian variation in cardiac

Chronobiol Int. 2004 Jan;21(1):107-29. PubMed PMID: 15129827.

23: van Eekelen AP, Houtveen JH, Kerkhof GA. Circadian variation in base rate measures of cardiac autonomic activity. Eur J Appl Physiol. 2004 Oct;93(1-2):39-46. Epub 2004 Jul 8. PubMed PMID: 15243746.

Studies identified, screened and extracted from PubMed:

N=21

1: Pullinger SA, Oksa J, Clark LF, Guyatt JWF, Newlove A, Burniston JG, Doran DA, Waterhouse JM, Edwards BJ. Diurnal variation in repeated sprint performance cannot be offset when rectal and muscle temperatures are at optimal levels (38.5°C). Chronobiol Int. 2018 Aug;35(8):1054-1065. doi: 10.1080/07420528.2018.1454938. Epub 2018 Mar 22. PubMed PMID: 29566344.

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5: Yang HL, Zhou WJ, Gu CJ, Meng YH, Shao J, Li DJ, Li MQ. Pleiotropic roles of melatonin in endometriosis, recurrent spontaneous abortion, and polycystic ovary syndrome. Am J Reprod Immunol. 2018 Jul;80(1):e12839. doi: 10.1111/aji.12839. Epub 2018 Mar 1. Review. PubMed PMID: 29493042.

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PMCID: PMC3445640.

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