

Table 4. Population and MC characteristics of studies that has investigated the effects of MC phase on vertical jumping and / or isometric force-time characteristics

Key: MC: Menstrual cycle; EF: Early follicular; ML: Mid luteal; LP: Luteal phase; yrs: years; NM: Naturally menstruating; OV: Ovulatory phase; F: Follicular phase; L: Luteal phase; LF: Late follicular phase; LH: Luteinizing Hormone; HC: Hormonal Contraceptives; LEAF-Q: Low Energy Availability in Females Questionnaire; IMTP: Isometric Mid-Thigh Pull; CMJ: Countermovement Jump; SJ: Squat Jump.

Author	Sample size	Population sport and level	Age and anthropometrics	Population training, strength, skill history	MC length	MC verification methods	MC phases examined	Smith et al. (2022) classification
Cabre et al. ⁹	Eum, n = 19 (NM n =15)	Physically active women	Age: 28.4 ± 7.3 yr; height: 166.3 ± 6.9 cm; mass 63.6 ± 8.1 kg	Participated in moderate-vigorous-intensity exercise ≥3 days/week, but <200 min of vigorous exercise; Strength training EXP ≤ 4 days/week	Consistent menstruation (e.g., once every 21–35 d) for ≥ 3 months	<ul style="list-style-type: none"> Calendar tracking 2 months prior Ovulation testing days 12 and 16 2.5-mL saliva sample 	<ul style="list-style-type: none"> F (0–9 days) and L phase (2 days post ovulation) 	<ul style="list-style-type: none"> Silver (+)
Carmichael et al. ¹⁰	5	Elite Australian rule football athletes from one squad	Age: 18–35 yrs	Competing in Women’s Australian Football League (AFLW) during 2019 season; Strength training EXP not stated	Between 21 and 35 days	<ul style="list-style-type: none"> Self-reported menses diary Where possible, urine samples every other day 	<ul style="list-style-type: none"> F & L (no other details provided) 	<ul style="list-style-type: none"> Bronze
Osborne et al. ³⁴	8	National Norwegian female handball players	Age: 20.3 ± 4.6 yrs; height: 166 ± 5 cm; mass: 67.2 ± 6.3 kg	National Norwegian handball players (Division 2: n = 5), regional (Division 3: n = 7; Division 4: n = 1) or junior age-specific series (16-years category: n = 5)	MC length between 21 and 35 days (mean 30 days)	<ul style="list-style-type: none"> Tracked and log their MC (i.e., days with menses) for a minimum of one complete MC MC phases confirmed via serum hormonal levels in blood samples 	<ul style="list-style-type: none"> EF (days 1–4), ovulatory (OV; ~days 14–15/ +1–2-day post-positive OV test), and ML; ~days 21–22/ +7–9 days post-positive OV) 	<ul style="list-style-type: none"> Silver (+)
Peltonen et al. ³⁸	16	Healthy women	Age: 26 ± 4 yrs; height, 167.1 ± 5.6 cm; mass, 67.9 ± 7.0 kg; body fat, 21.8% ± 6.6%	3 × sessions of strength and 3 × endurance training/ week	MC length 28.3 ± 2.3d; LEAF-Q, 3.8±2.7 points	<ul style="list-style-type: none"> MC phases confirmed via serum hormonal levels in blood samples taken at every visit (analysed retrospectively) Urinary OV kit testing performed daily to identify LH surge to confirm ovulation 	<ul style="list-style-type: none"> EF (2–4 days) and mid to late follicular (7–11 days), OV (1–2 days post LH detection, and ML (7 days post Ov) 	<ul style="list-style-type: none"> Gold (-) – No mention of testing outcomes across >1 MC
Smith et al. ⁴²	11(8) 8 completed IMTP / 7 completed CMJ and SJ	National Rugby League Indigenous Women’s Academy athletes Tier 3 (McKay et al. 2022)	Age: 21 ± 3 yrs; mass: 71.7 ± 8.4 kg	Training duration (hours) NM: 32.3 ± 4.4; Gym volume load (AU) NM: 38,519 ± 9,388	Cycle lengths in line with Elliott-Sale et al. ²⁰	<ul style="list-style-type: none"> Tracking 11 weeks, urinary ovulation kits, and assessing retrospective serum oestradiol and progesterone All progesterone >16 nmol/L in phase 4. 	<ul style="list-style-type: none"> EF (1.8 ± 0.4 day), LF (day 11.4 ± 1.4), and ML (20.8 ± 1.6 day) – but only Phase 1 and 4 used for analysis 	<ul style="list-style-type: none"> Gold (-) tested across 1 MC
Thompson et al. ⁴⁹	12	Physically active women	Age: 22.1 ± 3.5 yrs; height 165.5 ± 6.2 cm; mass 57.2 ± 8.3 kg	n/a	MC length of 28.3 ± 1.8 days (range: 25 to 32 days)	<ul style="list-style-type: none"> Urinary ovulation kits, and assessing retrospective serum oestradiol and progesterone 	<ul style="list-style-type: none"> EF (1–4 days) and late follicular / pre-OV (within 24 hours of positive LH test) and ML phase (7–9 days post LH) 	<ul style="list-style-type: none"> Gold (-) No mention of testing outcome measures across repeated MCs