|  |
| --- |
| **SDC 5. Summary Study Characteristics of Included Concurrent Exercise Training and Control or Comparison Group Intervention (*k*=76)** |
|  | Baseline Sample Characteristics | Features of the Concurrent Training Intervention and Control Comparison Condition | BP Change pre- to post- for CE, CON, and CE vs CON (mmHg)^ | Methodological Measures |
| First Author, Year | N Sample (W) | Resting SBP/DBP (mmHg) | BP and Health Status (% sample) | Length (wks) | Aerobic Exercise | Resistance Exercise | SBP | DBP | Reported Study Outcome | Randomized? | Study Quality (Items satisfied out of 33 \*100) |
| Abdelaal et al. 2014(2) | N=39(21)CE=20(11)Con=19(10) | CE145.5±1.91/94.0±0.86& | T2DM (100) | 12 | F: 3 d·wk-1I: ModerateT: NRT: Circuit training | F: 3 d·wk-1I: ModerateT: NRT: Circuit training | CE-3.1CE vs Con-1.6Con+2.2 | CE+0.9CE vs Con-1.8Con+3.4 | BP, Obesity Indices | Yes | 58 |
| Con145.0±2.94/94.0±1.63& | T2DM (100) | 12 | ConReceived regular drug therapy |
| Bateman et al. 2011(3) | N=25(12)CE=25(12) | CE118.0±14.6/77.8±8.36 | MetS (100) | 32 | F: 12 miles·wk-1I: 65-80% VO2maxT: 12 miles per weekT: walking or jogging | F: 3 d·wk-1I: 65-80% VO2maxT: 3 sets, 8-12 repsT: free weights or machines | CE-2.5 | CE-4.1 | MetS criteria, CVD risk factors | Yes | 82 |
| CON118.0±14.6/77.8±8.36 | MetS (100) | 32 | ConNon-exercise control session, crossover design trial |
| Bouchonville et al. 2013(4) | N=107(67)CE=26(16)Con=27(18) | CE131.2±11.7/70.9±8.3 | CVD (30) | 52 | F: 3 d·wk-1I: 65-75% HRmaxT: 90 min·ses-1, 30 min·ses-1 aerobic exerciseT: Treadmill, stationary cycling, stair stepping  | F: 3 d·wk-1I: 65-85% 1RMT: 90 min·ses-1, 30 min·ses-1 resistance training, 1-2 sets of 8-12 repsT: weight machines | CE-0.1CE vs Con+1.7Con-2.4 | CE-3.3CE vs Con-3.9Con+0.1 | Insulin Sensitivity Index (ISI) | Yes | 64 |
| Con133.3±18.6/71.5±10.7 | CVD (27) | 52 | ConEducational information about healthy diet habits, monthly visits |
| Bunchen et al. 2013(6) | N=32(17)CE=18(9)Con=14(8) | CE132.2±13.0/85.0±9.0 | Healthy (100) | 10 | F: 3 d·wk-1I: CPET thresholdT: 30 min·ses-1T: walking, running | F: 3 d·wk-1I: 50% 1RMT: 2 sets of 12 repsT: resistance exercise for upper and lower limbs | CE+1.6CE vs Con+0.0Con+1.5 | CE-3.1CE vs Con-3.1Con+0.0 | Quality of Life | Yes | 39 |
|  |  |  |  |  |
| Con127.2±19.0/85.3±10.0 | Healthy (100) | 10 | ConNon-exercise control |
| Chang Ho-Ha et al. 2012(16) | N=16(16)CE=7(7)Con=9(9) | CE113.7±11.22/76.4±6.1 | Healthy (100) | 12 | F: 3 d·wk-1I: 60-80% HRRT: 60 min·ses-1T: Treadmill running | F: 3 d·wk-1I: 10-15RMT: 30 min·ses-1, 3 sets of 10-15T: Resistance exercises | CE-5.4CE vs Con-7.1Con+1.7 | CE-10.6CE vs Con-11.3Con+0.1 | Body Comp and MetS Factors | Yes | 58 |
| Con114.3±11.2/69.1±5.4 | Healthy (100) | 12 | ConNon-exercise control |
| Cortez-Cooper et al. 2008(5) | N=37(27)CE=12(9)Con=12(8) | CE118.0±3.0/ 68.0±2.0& | Healthy (100) | 13 | F: 2 d·wk-1I: 60-75%HRRT: 30-45 min·ses-1T: walking, cycle ergometer | F: 2 d·wk-1I: 70%1-RMT: 30-45min·ses-1T: 10 exercises, 1 set of 8-12 reps, weight machines | CE-1.0CE vs ConCon | CE0.0CE vs ConCon | Central arterial compliance | Yes | 67 |
| Con122.0±4.0/87.0±3.0& | Healthy (100) | 13 | ConF: 3 d·wk-1I: NRT: 30-40 min·ses-1T: mild stretching for major muscle groups |
| do Rego et al. 2011(67) | N=41(41)CE=26(26)Con=15(15) | CE135.4±17.0/74.6±9.1 | Healthy (100) | 18 | F: 2 d·wk-1I: Weak to moderateT: 35 min·ses-1T: “aerobic endurance exercise” | F: 2 d·wk-1I: Weak to moderateT: 35 min·ses-1T: “muscle strengthening exercise” | CE-5.5CE vs Con-5.0Con-0.1 | CE-1.7CE vs Con+0.0Con-2.0 | BP | Yes | 55 |
| Con138.8±23.6/77.5±5.8 | Healthy (100) | 18 | ConNon-exercise control |
| Dobrosielski et al. 2012(7) | N=140(59)CE=70(29)Con=70(30) | CE126.9±1.6/71.1±1.1& | T2DM (100) | 26 | F: 3 d·wk-1I: 60-90% HRmaxT: 45 min·ses-1T: Treadmill, stationary bike, or stair stepper | F: 3 d·wk-1I: 50% 1RMT: 2 sets, 7 exercises, 10-15 repsT: weight machines | CE+0.0CE vs Con+0.0Con-1.9 | CE+0.0CE vs Con+1.6Con-0.1 | BP | Yes | 67 |
| Con126.7±1.6/72.4±1.1& | T2DM (100) | 26 | ConMonthly visits, BP monitoring, Education information on dietary guidelines, Education information on exercise guidelines,Subjects were asked to not change diet or exercise |
| Dos Santos et al. 2014(8) | N=60(60)ERT=20(20)CRT=20(20)Con= 20(20) | ERT162.7±7.8/90.2±4.3CRT167.6±4.3/91.3±3.6 | HTN, Healthy (100) | 16 | ERT and CRTF: 3 d·wk-1I: 65-75% HRmaxT: 20 min·ses-1T: Treadmill | CRTF: 3 d·wk-1I: 70-90% 10RMT: 3 sets of 10 repsT: traditional concentric training with free weights and machinesCE-ERTF: 3 d·wk-1I: 100-110% 10RMT: 50-60 min·ses-1T: Eccentric training with free weights and machines | ERT-33.8ERT vs Con-29.4CRT-26.7CRT vs Con-37.0 | ERT-11.9\*ERT vs Con-13.7CRT-12.1\*CRT vs Con-13.9 | Acute and Chronic CV Response | Yes | 69 |
|  | Con160.7±9.1/89.9±4.8 | HTN, Healthy (100) | 16 | ConNon-exercise control | Con+1.9 | Con+1.9 |  |  |  |
| Dunstan et al. 1998(9) | N=21(8)CE=11(3)Con=10(5) | CE126.0±3.0/73.0±2.0& | T2DM (100) | 8 | F: 3 d·wk-1I: 3.0 METT: 30 seconds aerobic bout, followed by resistance training for 60 min·ses-1T: Cycling as part of circuit training | F: 3 d·wk-1I: 50-55% 1RMT: 10-15 reps in 30 seconds followed by aerobic bout for 60 min·ses-1T: Weight machines as part of circuit training | CE+0.1CE vs Con+3.1Con-2.2 | CE+0.0CE vs Con+0.0Con+0.0 | Glycemic Control | Yes | 55 |
| Con130.0±4.0/72.0±2.0& | T2DM (100) | 8 | ConBP and glucose monitoring, instructed to not change diet, meetings fortnightly |
| Ehsani et al. 2003(10) | N=46 (NR)CE=22(NR)Con=24(NR) | CE145.3±21.0/76.8±11.0 | CVD, Frailty (100) | 36 | F: 2.61 d·wk-1I: 70-75% HRmaxT: 69.4 min·ses-1T: HIIT, walking, cycle, rowing | F: 2.61 d·wk-1I: 70-75% HRmaxT: 69.4 min·ses-1T: “muscle strengthening” | CE-1.2CE vs Con+1.1Con-2.1 | CE-0.1CE vs Con+0.1Con-1.5 | Cardiac Output | Yes | 57 |
| Con147.4±20.0/78.7±12.0 | CVD, Frailty (100) | 36 | Con3 d·wk-1 home exercise program of stretching, yoga, relaxation, 1 d·wk-1 sessions were supervised |
| Faulkner et al. 2013(11) | N=60(31)CE=30(16)Con=30(15) | CE140.0±14.3/81.9±8.1 | CVD (87) | 8 | F: 2 d·wk-1I: 50-85%HRmaxT: 30 min·ses-1 aerobic, 90 min·ses-1T: cycle ergometer | F: 2 d·wk-1I: 15 Borg RPE scaleT: 30 min·ses-1 resistance, 60 min·ses-1T: “resistance exercises” | CE-5.2CE vs Con-2.1Con-3.1 | CE-4.6CE vs Con-3.5Con-1.2 | Vascular risk | Yes | 73 |
| Con137.9±12.0/80.4±8.0 | CVD (60) | 8 | ConDisease management, educational pamphlets |
| Figueroa et al. 2011(12) | N=24(24)CE=12(12)Con=12(12) | CE124.0±2.9/74.0±2.0& | Healthy (100) | 12 | F: 3 d·wk-1I: 60%HRmaxT: 20 min·ses-1 aerobic, 40 min·ses-1T: walking | F: 3 d·wk-1I: 60%1RMT: 20 min·ses-1 resistance, 40 min·ses-1T: weight machines | CE-10.7CE vs Con-10.7Con+0.0 | CE-10.7CE vs Con-8.1Con-2.9 | Arterial stiffness, BP, muscle strength | Yes | 69 |
| Con120.0±4.0/74.0±1.0& | Healthy (100) | 12 | ConNon-exercise control |
| Gram et al. 2013(14) | N=67(NR)CE=32(NR)Con=35(NR) | CE135.0±14.0/86.0±10.0 | Healthy (100) | 12 | F: 3 d·wk-1I: 70%VO2maxT: 20 min·ses-1T: row, cycle ergometer | F: 3 d·wk-1I: 60%1RMT: 20 min·ses-1, 12 exercisesT: free weights | CE-1.3CE vs Con+0.0Con-1.7 | CE-1.8CE vs Con+0.0Con-2.3 | Aerobic capacity, muscle strength | Yes | 14 |
| Con132.0±17.0/85.0±11.0 | Healthy (100) | 12 | ConHealth education |
| Guimaraes et al. 2010(15) | N=43(30)CONT=16(12)INT=16(9)Con=11(9) | CONT136.0±10.0/89.0±9.0INT134.0±11.0/90.0±8.0 | Healthy (100) | 16 | CONTF: 3 d·wk-1I: 60% HRRT: 40 min·ses-1 aerobic, 60 min·ses-1T: “treadmill”INTF: 3 d·wk-1I: 50-80% HRRT: 40 min·ses-1 aerobic, 60 min·ses-1T: “treadmill” | CONTF: 3 d·wk-1I: submaximalT: 40 min·ses-1 aerobic, 60 min·ses-1T: “resistance exercise”INTF: 3 d·wk-1I: submaximalT: 40 min·ses-1 aerobic, 60 min·ses-1T: “resistance exercise” | CONTCE-3.2CONT vs Con-0.4INTCE-5.0INT vs Con-2.2Con-2.8 | CONTCE-3.0CONT vs Con-0.1INTCE-4.6INT vs Con-2.1Con-2.5 | BP and arterial stiffness | Yes | 70 |
| Con134.0±13.0/89.0±11.0 | Healthy (100) | 16 | ConNon-exercise control |
| Ho et al. 2012(17) | N=46 (NR)CE=25(NR)Con=21(NR) | CE117.7±3.3/66.4±1.5& | Healthy (100) | 12 | F: 5 d·wk-1I: ModerateT: 15 min·ses-1 aerobic, 30 min·ses-1T: walking | F: 5 d·wk-1I: ModerateT: 15 min·ses-1 resistance, 30 min·ses-1T: free weights, machines | CE-3.5CE vs Con+2.0Con-5.5 | CE-4.3CE vs Con-1.7Con-2.6 | BP, Arterial Stiffness | Yes | 22 |
| Con120.1±1.7/65.4±1.9& | Healthy (100) | 12 | ConNon-exercise control |
| Hordern et al. 2008(18) | N=132(NR)CE=68(NR)Con=64(NR) | CE137.1±18.1/79.8±8.5 | T2DM (100) | 4 | F: 4 d·wk-1I: 12-13 Borg RPET: 60 min·ses-1 T: walk, jog, cycle, step, row | F: 4 d·wk-1I: 12-13 Borg RPET: 60 min·ses-1 T: weight machines, free weights, resistance bands | CE-4.5CE vs Con+0.0Con-4.4 | CE+3.8CE vs Con+0.0Con+3.7 | Blood glucose | Yes | 58 |
| Con129.2±15.3/76.9±9.0 | T2DM (100) | 4 | ConDisease management |
| Hsu et al. 2014(19) | N=120(120)CE=60(60)Con=60(60) | CE134.4±21.2/73.6±12.9 | Healthy (100) | 12 | F: 3 d·wk-1I: 60-80% HRmaxT: 20 min·ses-1 aerobic, 60 min·ses-1T: walking, jog, run, cycle | F: 3 d·wk-1I: 60-80% 1RMT: 20 min·ses-1 resistance, 60 min·ses-1T: weight machines | CE-2.5CE vs Con-1.9Con-0.1 | CE-1.0CE vs Con-2.6Con+1.6 | Body comp | Yes | 45 |
| Con136.4±24.7/75.4±14.6 | Healthy (100) | 12 | ConNon-exercise control |
| Jorge et al. 2011(20) | N=48(31)CE=12(8)Con=12(8) | CE132.5±15.8/86.3±9.2 | T2DM (100) | 12 | F: 3 d·wk-1I: lactate thresholdT: 60 30 min·ses-1T: cycling | F: 3 d·wk-1I: lactate thresholdT: 60 30 min·ses-1T: 7 exercise circuit targeting large muscle groups | CE-2.2CE vs Con+4.5Con-6.6 | CE-7.6CE vs Con+1.6Con-9.2 | Metabolic control, inflammatory markers, adipocytokines, muscle signaling | Yes | 69 |
| Con135.8±16.2/85.0±6.7 | T2DM (100) | 12 | ConLight stretching exercises designed not to elicit exercise benefits |
| Kadoglou et al. 2007(21) | N=60(35)CE=30(17)Con=30(18) | CE137.7±15.7/83.3±8.9 | T2DM (100) | 24 | F: 4 d·wk-1I: 50-75% VO2peakT: 30-45 min·ses-1T: walk, jogging, cycle | F: 4 d·wk-1I: NRT: 30-45 min·ses-1T: Calisthenics | CE-12.9CE vs Con-2.4Con+10.9 | CE-7.9CE vs Con-10.1Con+2.2 | Inflammation | Yes | 61 |
| Con144.2±17.0/81.0±8.2 | T2DM (100) | 24 | ConNon-exercise control |
| Kawano et al. 2006(22) | N=39(0)CE=11())Con=16(0) | CE115.0±2.0/68.0±2.0& | Healthy (100) | 16 | F: 3 d·wk-1I: 60% HRmaxT: 30 min·ses-1T: cycling | F: 3 d·wk-1I: 80% 1RMT: 45 min·ses-1T: free weights, machines | CE+1.4CE vs Con+0.0Con+1.2 | CE-8.3CE vs Con-1.4Con+5.9 | Carotid Arterial Compliance | Yes | 55 |
| Con118.0±2.0/68.0±2.0& | Healthy (100) | 16 | ConInstructed to not change normal activity level |
| Kawasaki et al. 2011(23) | N=57(35)CE=35(24)Con=22(11) | CE136.6±3.2/81.0±1.6& | Healthy (100) | 24 | F: 2 d·wk-1I: 50% VO2peakT: 80 min·ses-1 aerobicT: cycle ergometer, swimming | F: 2 d·wk-1I: 50% VO2peakT: 10 min·ses-1 resistanceT: “land-based muscle strengthening” | CE-5.0CE vs Con-3.9Con+0.1 | CE-3.6CE vs Con-7.0Con+0.1 | BP, Lipids, Glucose, and Balance | Yes | 48 |
| Con133.9±2.3/77.8±1.5& | Healthy (100) | 24 | ConNon-exercise control |
| Kolbe-Alexander et al. 2006(24) | N=81 (NR)CE1=32 (NR)CE2=27(NR)Con=22 (NR) | CE1148.0±13.0/90.0±10.0CE2143.1±14.0/92.0±10.0 | CE1: T2DM, Arthritis (43)CE2: T2DM, Arthritis (33) | 20 | CE1F: 2 d·wk-1I: LowT: 45-50 min·ses-1T: Marching, hand clapping, clickingCE2F: 2 d·wk-1I: LowT: 45-50 min·ses-1T: Marching, hand clapping, clicking | CE1F: 2 d·wk-1I: LowT: 45-50 min·ses-1, 2 sets of 10-15 repsT: Water bottles filled with sand acted as weightsCE2F: 2 d·wk-1I: LowT: 45-50 min·ses-1, 2 sets of 10-15 repsT: Water bottles filled with sand acted as weights | CE1-3.0CE1 vs Con-5.3CE2-4.3CE2 vs Con-6.5Con+2.2 | CE1-2.0CE1 vs Con+0.0CE2-3.9CE2 vs Con-2.0Con-1.9 | Quality of Life Measures  | Yes | 39 |
| Con147.0±13.0/91.0±10.0 | T2DM, Arthritis (81) | 20 | ConNon-exercise control |
| Kouidi et al. 2013(25) | N=23(6)CE=11(3)Con=12(3) | CE129.5±7.2/78.5±6.0 | Renal Transplant (100) | 24 | F: 4 d·wk-1I: 50-75% VO2peakT: 30-40 min·ses-1T: cycling, jogging, step aerobics, calisthenics, dancing | F: 4 d·wk-1I: 70-80% 1RMT: 10-30 min·ses-1, 1-3 sets of 1-12 repsT: weight stations | CE+0.0CE vs Con-5.6Con+5.3 | CE-0.1CE vs Con-6.5Con+6.0 | Autonomic function | Yes | 58 |
| Con128.8±7.4/77.4±4.6 | Renal Transplant (100) | 24 | ConNon-exercise control |
| Kraemer et al. 2001(26) | N=15(15)CE=9(9)Con=6(6) | CE122.8±7.8/80.9±7.1 | Healthy (100) | 12 | F: 3 d·wk-1I: 80-90% HRmaxT: 20 min·ses-1T: Step aerobics | F: 3 d·wk-1I: 80-90% HRmax, 1RMT: 2.5 sets of 10 repsT: free weights | CE-4.2CE vs Con-5.8Con+1.6 | CE-8.5CE vs Con-5.0Con-3.5 | Women’s health profile to resistance training | Yes | 67 |
| Con120.3±12.8/79.0±5.5 | Healthy (100) | 12 | ConNon-exercise control |
| Laterza et al. 2007(27) | N=42(10)HTN=11(NR)NBP=12(0) | HTN145.0±2.0/94.0±84.0&NBP117.0±2.0/78.0±1.0& | Untreated HTN (47.8%) | 16 | CE (HTN and NBP)F: 3 d·wk-1I: anaerobic thresholdT: 40 min·ses-1 aerobicT: cycle ergometer | CE (HTN and NBP)F: 3 d·wk-1I: NRT: 60 min·ses-1T: calisthenics | HTNCE-20.1NBPCE-1.4CE vs Con-16.0Con+1.0CE vs Con-2.0 | HTNCE-13.9\*NBPCE0.0CE vs Con-9.0Con+1.0CE vs Con+1.0 | Bareoreflex sensitivity | Yes | 69 |
| Con145.0±4.0/94.0±2.0& | Non-treated HTN (100%) | 16 | ConInstructed to avoid regular exercise for study duration |
| Lubans et al. 2013(31) | N=44(44)CE=22(22)Con=22(22) | CE138.3±11.5/82.7±11.8 | Healthy (100) | 8 | F: 2 d·wk-1I: 12-16 borg rating of perceived exertionT: 55-75 min·ses-1T: walking, jogging in place | F: 2 d·wk-1I: 13-16 borg rating of perceived exertionT: 55-75 min·ses-1, 2 sets of 10-15 reps, 1 exercisesT: body weight, resistance bands | CE-0.1CE vs Con-0.1Con+0.0 | CE-0.1CE vs Con-1.6Con+0.1 | Efficacy of RT program using behavioral model | Yes | 64 |
| Con136.1±12.9/79.1±8.4 | Healthy (100) | 8 | ConProvided pedometer, and education session about physical activity  |
| Loimaala et al. 2003(30) | N=49 (0)CE=24(0)Con=25(0) | CE142.0±17.0/NR | T2DM (100) | 52 | F: 2 d·wk-1I: 65-75% VO2maxT: at least 30 min·ses-1T: walking | F: 2 d·wk-1I: 70-80% MVCT: at least 30 min·ses-1T: “strength training” | CE-2.3CE vs Con-1.6Con-0.1 | NR | Baroreflex Sensitivity | Yes | 55 |
| Con145.0±14.0/NR | T2DM (100) |  | ConNon-exercise control |
| Loimaala et al. 2009(28) | N=48 (0)CE=24(0)Con=24(0) | CE144.0±17.0/NR | T2DM (100) | 144 | F: 2 d·wk-1I: 65-75% VO2maxT: 30 min·ses-1T: walking, jogging | F: 2 d·wk-1I: 70-80% MVCT: 30 min·ses-1, 3 sets of 18-10 repsT: muscle strengthening for large muscle groups | CE-0.1CE vs Con+0.0Con+0.0 | NR | Myocardial diastolic tissue velocity | Yes | 45 |
| Con146.0±15/NR | T2DM (100) | 144 | ConNon-exercise control |
| Loimaala et al. 2009(29) | N=50(0)CE=24(0)Con=24(0) | CE142.0±2.8/NR | T2DM (100) | 288 | F: 4 d·wk-1I: 65-75% VO2maxT: 30 min·ses-1T: walking, jogging | F: 4 d·wk-1I: 60% MVCT: 30 min·ses-1T: free weights and machines | CE-2.1CE vs Con-1.4Con-0.1 | NR | CVD risk factors, pulse wave velocity (PWV) | Yes | 45 |
| Con145.0±2.8/NR | T2DM (100) | 288 | ConNon-exercise control |  |
| Lucio-Mazini-Filho et al. 2013(13) | N=54(54)CE=33(33)Con=21(21) | CE145.3±14.3/95.8±8.6 | Healthy (100) | 16 | F: 3 d·wk-1I: moderateT: 25 min·ses-1 aerobicT: walking | F: 3 d·wk-1I: moderate, Omni scale 3-5T: 15 min·ses-1 resistanceT: resistance bands | CE-6.2CE vs Con+0.0Con-6.0 | CE-11.2CE vs Con-9.8Con-1.4 | BP, Body Mass Index, Metabolic Parameters | Yes | 58 |
| Con147.8±12.2/92.1±7.5 | Healthy (100) | 16 | ConNon-exercise control |
| Luk et al. 2011(32) | N=64(16)CE=32(8)Con=32(8) | CE144.0±15.0/80.0±7.0 | CVD, T2DM (100) | 8 | F: 3 d·wk-1I: 80% HRmaxT: 60 min·ses-1T: walking, jogging, cycling, rowing, arm ergometery | F: 3 d·wk-1I: 80% HRmaxT: 60 min·ses-1T: dumbbell weight training | CE-8.1CE vs Con-4.2Con-3.9 | CE-4.9CE vs Con-2.1Con-2.8 | Brachial flow mediated dilation  | Yes | 67 |
| Con145.0±20.0/84.0±8.0 | CVD, T2DM (100) | 8 | ConNon-exercise control |
| Malin et al. 2013(33) | N=16(11)CE=8(5)Con=8(6) | CE136.8±2.4/NR | Impaired glucose tolerance (100) | 12 | F: 3 d·wk-1I: 70% HRmaxT: 45 min·ses-1T: cycling | F: 2 d·wk-1I: 70% 1RMT: 2 sets of 12 reps, 6 exercisesT: whole body resistance exercises | CE-8.8\*CE vs Con-5.6Con+2.4 | NR | CVD risk factors | Yes | 58 |
| Con126.1±134.5 | Impaired glucose tolerance (100) | 12 | ConNon-exercise control |
| McGavock et al. 2004(34) | N=18(18)CE=11(11)Con=7(7) | CE133.0±15.0/76.0±9.0 | T2DM (100) | 10 | F: 3 d·wk-1I: 70% HRRT: 30-55 min·ses-1T: cycle ergometer | F: 3 d·wk-1I: 65-70% 1RMT: 3 sets of 10-15 repsT: weight machines | CE+1.8CE vs Con+3.4Con-1.5 | CE+0.0CE vs Con+1.8Con-1.6 | LV filling dynamics, arterial compliance | Yes | 48 |
| Con139.0±17.0/74.0±11.0 | T2DM (100) | 10 | ConNon-exercise control |
| McMurdo et al. 1992(35) | N=77(NR)CE=44(NR)Con=43(NR) | CE143.1±18.0/88.6±11.7 |  Healthy (100) | 32 | F: 3 d·wk-1I: lowT: 45 min·ses-1T: endurance exercise to music | F: 3 d·wk-1I: lowT: 45 min·ses-1T: muscle strengthening  | CE-1.6CE vs Con+0.1Con-2.5 | CE-3.0CE vs Con+0.1Con-3.5 | Flexibility and strength | Yes | 61 |
| Con136.8±15.4/87.4±10.6 | Healthy (100) | 32 | ConHealth education classes on a regular schedule |
| Miura et al. 2008(36) | N=98 (98)1Day=29(29)2Day=25(25)Con=23(23) | CE-1 Day126.2±14.0/73.8±7.8CE-2 Day123.3±13.7/73.0±9.2 | Healthy (100) | 12 | 1DayF: 1 d·wk-1I: 70-75% HRmaxT: 40 min·ses-1T: Circuit training2DayF: 2 d·wk-1I: 70-75% HRmaxT: 40 min·ses-1T: Circuit training | 1DayF: 1 d·wk-1I: 70-75% HRmaxT: 40 min·ses-1T: Circuit training, bands and light dumbbells2DayF: 2 d·wk-1I: 70-75% HRmaxT: 40 min·ses-1T: Circuit training, bands and light dumbbells | 1 DayCE-2.4CE1 vs Con-2.22 DayCE-3.2CE2 vs Con-3.3Con+0.0 | 1 DayCE-1.9CE1 vs Con-0.12 DayCE-4.2CE2 vs Con-3.3Con-0.1 | Arterial stiffness | Yes | 58 |
| Con122.9±13.7/71.7±9.1 | Healthy (100) | 12 | ConNon-exercise control |
| Nishijima et al. 2007(37) | N=531(327)CE=281(166)Con=280(161) | CE139.3±16.4/82.3±9.7 | T2DM, Arthritis (30.2%) | 24 | F: 2-4 d·wk-1I: 40-70% HRmaxT: 20-40 min·ses-1 aerobic, 60-90 min·ses-1 T: cycle ergometer | F: 2-4 d·wk-1I: mild to moderate, RPET: 60-90 min·ses-1, 2 sets of 20 reps, 4 exercises T: machine weights | CE-6.1CE vs Con-0.1Con-5.2 | CE-6.7CE vs Con-1.4Con-5.3 | BP, LDL cholesterol, hemoglobin A1C | Yes | 76 |
| Con141.3±17.6/83.3±10.6 | T2DM, Arthritis (27.5%) | 24 | ConAdhere to lifestyle guidelines, not reported |
| Ohkubo et al. 2001(38) | N=65(32)CE=32(16)Con=33(16) | CE143.0±2.1/78.7±2.4& | Healthy (100) | 25 | F: 2 d·wk-1I: 25-60% HRRT: 10-25 min·ses-1T: cycle ergometer | F: 2 d·wk-1I: 25-60%HRRT: 3 exercises, 1 set x 20 repsT: therabands | CE-11.0CE vs Con-6.3Con-4.6 | CE-2.7CE vs Con-1.3Con-1.5 |  Home BP Measurements | Yes | 65 |
| Con144.1±2.5/81.4±2.1& | Healthy (100) | 25 | ConEducation classes unrelated to physical activity |
| Okada et al. 2010(39) | N=38(17)CE=21(11)Con=17(6) | CE129.0±21.6/74.6±11.6 | T2DM (100) | 8 | F: 3-5 d·wk-1I: training heart rate calculatedT: 30 min·ses-1 aerobic, 75 min·ses-1 T: cycle ergometer, aerobic dance | F: 3-5 d·wk-1I: training heart rate calculatedT: 20 min·ses-1 aerobic, 75 min·ses-1 T: “resistance exercise” | CE+0.1CE vs Con-1.5Con+2.1 | CE+3.2CE vs Con+1.2Con+2.0 | Incidence of CVD, vascular function | Yes | 61 |
| Con126.6±16.8/73.8±11.8 | T2DM (100) | 8 | ConReceived same disease management and dietary information as CE group |
| Okamoto et al. 2007(40) | N=33(22)BRT=11(7)ART=11(7)Con=11(8) | BRT113.6±3.4/62.5±2.2&ART113.5±4.3/64.5±1.9& | NBP, Healthy (100) | 8 | BRTF: 2 d·wk-1I: 60% HRmax, T: 20 min·ses-1T: runningARTF: 2 d·wk-1I: 60% HRmax, T: 20 min·ses-1T: running | BRTF: 2 d·wk-1I: 80% 1RM T: 5 sets of 8-10 reps, 7 exercisesT: weight machinesARTF: 2 d·wk-1I: 80% 1RM T: 5 sets of 8-10 reps, 7 exercisesT: weight machines | BRTCE-2.0BRT vs Con-0.1ARTCE-2.2ART vs Con-0.1Con+1.1 | BRTCE-2.5BRT vs Con+0.0ARTCE-7.6ART vs Con-5.2Con+1.1 | Vascular function pulse wave velocity | Yes | 65 |
| Con113.9±3.2/63.3±2.1& | NBP, Healthy (100) | 8 | ConNon-exercise control |
| Oliviera et al. 2012(66) | N=22(14)CE=10(6)Con=12(8) | CE132.5±15.8/86.2±9.1 |  T2DM (100) | 12 | F: 3 d·wk-1I: lactate threshold T: 60 min·ses-1T: cycling | F: 3 d·wk-1I: 50% 1RM T: 60 min·ses-1T: machine weights | CE-4.3CE vs Con+2.3Con-6.6 | CE-8.7CE vs Con+0.1Con-9.3 | Stress markers, metabolic control | Yes | 61 |
| Con135.8±16.2/85.0±6.7 | T2DM (100) | 12 | ConGlycemic control monitoring, disease management, stretching classes |
| Opdenacker et al. 2007(41) | N=180(90)CE1=60(30)CE2=60(30)Con=60(30) | CE1144.8±2.3/86.6±1.3&CE2148.6±2.3/87.9±1.3& |  Healthy (100) | 24 | CE1F: 2.5 d·wk-1I: 75% HRR, moderate to vigorousT: 60-90 min·ses-1T: cycle ergometer, walk, cycle, step, swimCE2F: home-basedI: at increased heart rateT: NRT: cycle ergometer, walk, cycle, step, swim | CE1F: 2.5 d·wk-1I: moderate, 10RMT: 60-90 min·ses-1T: resistance bandsCE2F: home-basedI: increased heart rateT: NRT: “resistance exercise” | CE1-3.0CE1 vs Con-0.1CE2-5.9CE2 vs Con-3.5Con-2.3 | CE1-5.9CE1 vs Con+0.0CE2-7.2CE2 vs Con-1.3Con-5.9 | CVD risk factors | Yes | 55 |
| Con143.1±2.2/84.5±1.2& | Healthy (100) | ConNon-exercise control |
| Opperman et al. 2012(1) | N=41(0)CE1=16(0)CE2=16(0)Con=9(0) | CE1130.1±9.8/87.2±5.5CE2130.1±11.6/86.1±7.5 | Healthy (100) | 12 | CE1F: 2 d·wk-1I: 60-85% HRmaxT: 50-60 min·ses-1T: “aerobic exercise”CE2F: 4 d·wk-1I: 60-85% HRmaxT: 50-60 min·ses-1T: “aerobic exercise” | CE1F: 2 d·wk-1I: 60-85% 10RMT: 50-60 min·ses-1T: “resistance exercise”CE2F: 4 d·wk-1I: 60-85% 10RMT: 50-60 min·ses-1T: “resistance exercise” | CE1-3.7CE1 vs Con-3.1CE2+0.0CE2 vs Con+0.0Con-0.1 | CE1-10.4CE1 vs Con-7.6CE2-3.3CE2 vs Con-0.1Con-2.4 | Hemodynamic parameters | Yes | 45 |
| Con135.8±15.5/87.2±8.3 | Healthy (100) | 12 | ConNon-exercise control |
| Pantelic et al. 2013(42) | N=60(0)CE=30(0)Con=30(0) | CE130.3±16.6/80.6±9.6 | CVD (100) | 3 | F: 7 d·wk-1I: 55-70% HRmaxT: 45-60 min·ses-1T: cycle | F: 7 d·wk-1I: calisthenicsT: 45-60 min·ses-1T: calisthenics | CE-4.0CE vs Con+0.0Con-4.3 | CE-3.8CE vs Con-0.1Con-3.0 | Cardio respiratory fitness | Yes | 58 |
| Con132.0±13.0/83.3±8.0 | CVD (100) | 3 | ConUsual drug therapy |
| Petraki et al. 2008(43) | N=43(11)CE=22(7)Con=21(4) | CE137.2±16.7/82.9±9.3 | CKD (100) | 28 | F: 3 d·wk-1I: 13 Borg RPE scaleT: 30-60 min·ses-1T: cycle | F: 3 d·wk-1I: theraband METT: 30-60 min·ses-1T: resistance bands | CE-4.8CE vs Con-3.6Con-1.2 | CE-6.3CE vs Con-4.9Con-1.4 | Baroreflex sensitivity | Yes  | 58 |
| Con135.7±16.1/83.6±7.9 | CKD (100) | 28 | ConNon-exercise control |
| Puggard et al. 2000(44) | N=36(36)CE=22(22)Con=14(14) | CE161.0 (130-197)/84.0(62-113)% | Healthy (100) | 32 | CEF: 1-7 d·wk-1I: 69% VO2maxT: NRT: walking | CEF: 1-7 d·wk-1I: 69% MVCT: NRT: “resistance exercise” | CE-0.1CE vs Con-1.8Con+0.1 | CE-4.8CE vs Con-4.8Con+0.0 | Maximal oxygen uptake, muscle strength, walking speed | Yes | 39 |
| Con153(114-190)/77(61-92)% | Healthy (100) | 32 | ConNon-exercise control |
| Riess et al. 2011(45) | N=31(17)CE=16(8)Con=15(9) | CE130.4±12.2/76.0±7.4 | CKD (100) | 12 | F: 2 d·wk-1I: 85% HRmaxT: 30-60 min·ses-1T: walking, cycle | F: 2 d·wk-1I: 61% 1RMT: 30-60 min·ses-1T: weight machines | CE-1.5CE vs Con+0.0Con-1.9 | CE+1.3CE vs Con+0.4Con-3.2 | Exercise capacity, muscle strength, quality of life, body composition, CVD risk | Yes | 58 |
| Con137.3±18.0/76.6±8.9 | CKD (100) | 12 | ConNon-exercise control |
| Seo et al. 2010(46) | N=15(15)CE=8(8)Con=7(7) | CE126.5±14.4/86.5±11.7 | Healthy (100) | 12 | F: 3 d·wk-1I: 70% HRRT: 60 min·ses-1T: walking, aerobics | F: 3 d·wk-1I: 60% 1RMT: 60 min·ses-1, 3 sets of 8 reps, 8 exercisesT: machine weights | CE-4.8CE vs Con-3.4Con-1.3 | CE-2.7CE vs Con+0.0Con-2.3 | Growth Hormone | Yes | 55 |
| Con132.0±13.8/87.3±10.0 | Healthy (100) | 12 | ConFlexibility exercise program, 3 d·wk-1 |
| Seo et al. 2011(47) | N=20(20)CE=10(10)Con=10(10) | CE121.2±8.0/72.8±10.7 | Healthy (100) | 12 | F: 3 d·wk-1I: 65% HRRT: 30 min·ses-1 aerobic, 60 min·ses-1 T: running | F: 3 d·wk-1I: 65%HRRT: 30 min·ses-1 resistance, 60 min·ses-1, 3 sets of 10 repsT: resistance exercise | CE-2.4CE vs Con-3.4Con+1.0 | CE-5.2CE vs Con-6.4Con+1.2 | Visfatin | Yes | 61 |
| Con119.9±9.8/72.8±10.7 | Healthy (100) | 12 | ConNon-exercise control |
| Shaw et al. 2010(48) | N=25(0)CE=13(0)Con=12(0) | CE131.54±9.28/NR | Healthy (100) | 16 | F: 3 d·wk-1I: 60-75%HRmaxT: 22 min·ses-1 aerobic, 60 min·ses-1 T: treadmill, cycle ergometer, stepping | F: 3 d·wk-1I: 60-75% 1RMT: 22 min·ses-1 resistance, 60 min·ses-1 T: machine weights | CE-9.9\*CE vs Con-1.4Con+4.4 | NR | Framingham Heart Risk Scores | Yes | 52 |
| Con122.0±5.72/NR | Healthy (100) | 16 | ConNon-exercise control |
| Shin et al. 2009(49) | N=60 (60)CE=30(30)Con=30(30) | CE140.0±16.5/88.2±13.5 | Healthy (100) | 8 | F: 2 d·wk-1I: 40-50% HRmax to 60-65% HRmaxT:30-50 minT: Rhythmic movements for increasing cardiopulmonary endurance | F: 2 d·wk-1I: 40-50% HRmax to 60-65% HRmaxT: 30-50 minT: Rhythmic movements for strengthening muscles | CE-4.4CE vs Con-3.9Con-0.1 | CE-6.9CE vs Con-13.2Con+6.2 | Physical fitness, depression, self efficacy | Yes | 65 |
| Con139.8±19.4/138.7±19.0 | Healthy (100) | 8 | ConWait-list non-exercise control |
| Sigal et al. 2007(50) | N=251 (91)CE= 64 (24)Con=63 (22) | CE131.0±22.0/79.0±13.0 | T2DM (100) | 26 | F: 3 d·wk-1I: 60-75%HRmaxT: 15-45 min·ses-1T: treadmill, cycle ergometer | F: 3 d·wk-1I: 7-9RMT: 3 sets x 7 repsT: weight machines |  CE-0.1CE vs Con+1.1Con-2.0 | CE+0.0CE vs Con+0.1Con-0.1 | Glycemic Control | Yes | 76 |
| Con133±20.0/80.0±12.0 | T2DM | 26 | ConDietary recommendations as part of disease management for T2DM |
| Sillanpaa et al. 2009 (women)(51) | N=30(30)CE=18(18)Con=12(12) | CE125.0±17.0/75.0±8.0 | Healthy | 21 | F: 2-3 d·wk-1I: anaerobic thresholdT: 30-90 min·ses-1 aerobic, 60-90 min·ses-1 T: cycle ergometer | F: 2-3 d·wk-1I: 40-90% 1RMT: 2-3 sets, 6-15 repsT: weight machines | CE+0.1CE vs Con+5.2Con-4.7 | CE+2.3CE vs Con+5.5Con-3.1 | Body composition, fitness, and metabolic health | Yes | 58 |
| Con130.0±18.0/76.0±9.0 | Healthy | 21 | ConNon-exercise control |
| Sillanpaa et al. 2009 (men)(52) | N=63(0)CE=15(0)Con=15(0) | CESee graph (SD NR) | Healthy (100) | 21 | F: 4 d·wk-1I: anaerobic thresholdT: 60-90 min·ses-1 T: cycle ergometer | F: 4 d·wk-1I: 40-90% 1RMT: 3-4 sets, 6-20 repsT: free weights | CE-3.8CE vs Con+2.8Con-6.6 | CE-2.8CE vs Con+2.2Con-4.7 | Metabolic risk factors | Yes | 58 |
| Healthy (100) | 21 | ConNon-exercise control |
| Silva et al. 2002(53) | N=24(6)CE=12(3)Con=12(3) | CE136.0±33.0/NR | CVD (100) | 12 | F: 3 d·wk-1I: 60-80%HRmaxT: 30-60 min·ses-1T: walking | F: 3 d·wk-1I: 60-80%HRmaxT: 30-60 min·ses-1T: calisthenics, body weight exercise | CE-0.1CE vs Con-3.4Con+2.6 | NR | Physical capacity in heart failure | Yes | 55 |
| Con154.0±36.0/NR | CVD (100) | 12 | ConNon-exercise control |
| Sousa et al. 2013(54) | N=59(0)CE1=20(0)CE2=19(0)Con=20(0) | CE1148.5±15.1/82.8±9.6CE2149.4±25.1/80.4±7.6 | Healthy (100) | 32 | CE1F: 3 d·wk-1I: 12-13 borg scaleT: 30 min·ses-1T: walking, jog, danceCE2F: 3 d·wk-1I: moderateT: 30 min·ses-1T: walking, jog dance | CE1F: 3 d·wk-1I: 70% 1RMT: NRT: weight machinesCE2F: 3 d·wk-1I: lowT: 10 min·ses-1T: body weight exercise | CE1-15.1CE1 vs Con-14.9CE2-5.6CE2 vs Con-5.4Con+0.0 | CE1-11.4CE1 vs Con-8.3CE2-7.2CE2 vs Con-4.1Con-3.1 | BP, body fat | Yes | 67 |
| Con138.8±15.9/81.4±8.8 | Healthy (100) | 32 | ConNon-exercise control |
| Spina et al. 2004(55) | N=36(19)CE=22(11)Con=14(8) | CE134.0±18.0 | Healthy (100) | 156 | F: 3.0 d·wk-1I: 82% HRmaxT: 69.4 min·ses-1T: walk, cycle, row | F: 3.0 d·wk-1I: 82% HRmaxT: 69.4 min·ses-1, 1-6 sets of10-12 repsT: weight machines | CE+0.1CE vs Con+0.1Con+0.0 | CE-3.1CE vs Con-2.5Con-0.1 | Cardiac Output | Yes | 61 |
| Con143.0±21.0 | Healthy (100) | 156 | ConRelaxation, yoga stretching performed 3 d·wk-1 |
| Stensvold et al. 2010(56) | N=43(17)CE=11(NR)Con=10(NR) | CE148.6±14.0/89.0±7.1 | MetS (100) | 12 | F: 3 d·wk-1I: 70-95% HRmaxT: 43 min·ses-1T: walk, jog | F: 3 d·wk-1I: 40-50% 1RMT: 40 min·ses-1T: resistance exercise | CE-2.3CE vs Con-2.8Con+0.0 | CE+0.1CE vs Con+1.8Con-0.1 | Metabolic syndrome criteria | Yes | 76 |
| Con141.5±12.3/90.1±7.1 | MetS (100) | 12 | ConNon-exercise control |
| Stewart et al. 2005(57) | N=104(53)CE=51(26)Con=53(27) | CE140.3(138.2,142.4)/76.8(74.8,78.9)$ |  Healthy (100) | 24 | F: 3 d·wk-1I: 60-90% HRmaxT: 45 min·ses-1T: walk, cycle ergometer, stepper | F: 3 d·wk-1I: 50% 1RMT: 2 sets for 10-15 reps, 7 exercisesT: weight machines | CE-5.1CE vs Con-2.6Con-2.5 | CE-7.7CE vs Con-7.3Con+0.0 | BP | Yes | 69 |
| Con141.7(139.7,143.8)/76.4(73.9,78.9)$ | Healthy (100) | 24 | ConSubjects were given recommendations for hypertension from the AHA, and National Institute on Aging |
| Taylor-Piliae et al. 2010(58) | N=95(69)CE=39(28)Con=56(41) | CENR | T2DM, Arthritis, CVD (89.7) | 24 | F: at least 3 d·wk-1I: VigorousT: 15-20 min·ses-1 T: walking | F: at least 3 d·wk-1I: LightT: 15-20 min·ses-1 T: calisthenics | CE-1.9CE vs Con+0.0Con-1.9 | NR | Cognitive and physical functioning | Yes | 45 |
| ConNR | T2DM, Arthritis, CVD (80.3) | 24 | ConEducational classes on health and aging, 1 d·wk-1, 90 min·ses-1 |
| Thomas et al. 2004(59) | N=34(NR)CE=21(NR)Con=14(NR) | CE126.0±14.4/NR | Healthy (100) | 12 | F: 3 d·wk-1I: 4-6 METT: 30 min·ses-1 aerobic, 60 min·ses-1 T: walk | F: 3 d·wk-1I: 4-6 METT: 30 min·ses-1 resistance, 60 min·ses-1 T: weight machines | CE+0.0 CE vs Con+0.0Con+0.0 | NR | Strength, flexibility, cardiorespiratory fitness | Yes | 58 |
| Con131.0±18.9/NR | Healthy (100) | 12 | ConNon-exercise control |
| Tseng et al. 2013(60) | N=20(0)CE=10(0)Con=10(0) | CE130.2±2.5/82.8±1.7& | Healthy (100) | 12 | F: 5 d·wk-1I: 55-65% HRmaxT: 60 min·ses-1 T: walking | F: 5 d·wk-1I: 55-75% 1RMT: 60 min·ses-1 T: machine weights | CE-8.3CE vs Con-9.2Con+0.1 | CE-9.5CE vs Con-9.2Con+0.0 | HDL cholesterol | Yes | 67 |
| Con126.0±1.3/81.7±1.6& | Healthy (100) | 12 | ConNon-exercise control |
| Van Vilsteren et al. 2004(68) | N=103(31)CE=60(19)Con=43(13) | CE145.0±23.2/81.0±14.2 | CKD dialysis dependent (100) | 12 | F: 2-3 d·wk-1I: Borg RPE, moderateT: 20-30 min·ses-1T: cycle ergometer | F: 5 d·wk-1I: Borg RPE, moderateT: 20-30 min·ses-1 T: calisthenics | CE-2.1CE vs Con+0.0Con-1.7 | CE-0.1CE vs Con+1.9Con-2.6 | Behavior change, physical fitness and quality of life | Yes | 65 |
|  |  | Con150.0±23.0/83.0±15.0 | CKD dialysis dependent (100) | 12 | ConDisease Management, Dialysis |
| Vianna et al. 2011(61) | N=70 (46)CE=35(36)Con=35(20) | CE142.3±18.3/81.4±6.0 | Healthy (100) | 12 | F: 2 d·wk-1I: 55-65% HRmaxT: 60 min·ses-1T: walking, hydrogymnastics | F: 1 d·wk-1I: 55-65% HRmaxT: 60 min·ses-1T: muscle strengthening exercises | CE-5.0CE vs Con-5.8Con+0.1 | CE-3.3CE vs Con-9.8Con+6.5 | BP | Yes | 67 |
| Con141.1±17.9/82.3±7.7 | Healthy (100) | 12 | ConMonthly phone calls to subjects with study updates |
| Viecili et al. 2008(63) | N=88(54)CE=48(33)Con=40(21) | CE144.0±20.0/88.0±15.0 | T2DM, hypercholesterolemia (29) | 12 | F: 3 d·wk-1I: 70% VO2maxT: 90 min·ses-1T: walking | F: 3 d·wk-1I: 40% MVCT: 90 min·ses-1T: “muscle strengthening exercise” | CE-7.4CE vs Con-5.9Con-1.5 | CE-4.6CE vs Con-2.4Con-2.2 | Exercise Frequency | Yes | 58 |
| Con140.0±13.0/87.0±9.0 | T2DM, hypercholesterolemia (30) | 12 | ConBP monitoring |  |  |  |  |  |  |
| Vincente-Campos et al. 2012(62) | N=43(25)CE=22(12)Con=21(13) | CE135.2±4.4/81.1±6.8 | Healthy (100) | 28 | F: 2-3 d·wk-1I: 55% HRmaxT: 50 min·ses-1 aerobic, T: “aerobic activity” | F: 2-3 d·wk-1I: 65% HRmaxT: 50 min·ses-1T: “strengthening exercise” | CE-5.7CE vs Con-5.5Con+0.0 | CE-3.0CE vs Con-5.2Con+2.2 | Cerebral vasoreactivity | Yes | 58 |
| Con135.7±5.5/81.2±4.2 | Healthy (100) | 28 | ConNon-exercise control |  |  |  |  |  |  |
| Wescott et al. 2011(64) | N=52(48)CE=18(NR)Con=(NR) | CE124.3±16.8/68.6±6.4 | Healthy (100) | 36 | F: 2-3 d·wk-1I: moderateT: 25 min·ses-1 aerobic, 60 min·ses-1T: cycle ergometer | F: 2-3 d·wk-1I: moderateT: 25 min·ses-1 resistance, 60 min·ses-1T: machine weights | CE-1.4CE vs Con-4.2Con+2.8 | CE+2.5CE vs Con-5.4Con+8.0 | Lean weight, BP | Yes | 39 |
| Con117.1±9.5/68.0±6.8 | Healthy (100) | 36 | ConNon-exercise control |  |  |  |  |  |
| Wood et al. 2001(65) | N=36(19)CE=9(5)Con=6(3) | CE128.7±13.8/76.6±8.3 | Healthy (100) | 12 | F: 3 d·wk-1I: 65% HRRT: 30 min·ses-1 aerobic, 55 min·ses-1 T: walk, cycleConNon-exercise control | F: 3 d·wk-1I: 75% 5RMT: 25 min·ses-1 resistance, 55 min·ses-1, 1 set of 10 reps, 8 exercisesT: weight machines | CE+1.4CE vs Con+2.9Con-1.4 | CE+1.3CE vs Con-1.1Con+2.4 | Battery of tests for physical fitness in older adults | Yes | 58 |
| Con133.5±22.4/78.3±6.9 | Healthy (100) | 12 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| *Note*: Abbr. ART=after resistance training. BP= blood pressure. BRT= before resistance training. CE=concurrent exercise. CI=confidence interval. CKD= chronic kidney disease. Comp=composition. Con=control or comparison group. CONT=continuous. CV=cardiovascular. CVD=cardiovascular disease. CRT= concentric resistance training. DBP= diastolic blood pressure. ERT=eccentric resistance training. FITT= frequency, intensity, time and type of exercise. HRmax= maximum heart rate. HRR=heart rate reserve. HDL=high-density lipoprotein cholesterol. HTN=hypertension (>140/>90 mmHg). INT= interval training. *k*=number of observations. MET=metabolic equivalents. MetS=metabolic syndrome. MVC=maximal voluntary contraction. N=number of participants. NBP=normal blood pressure (<120/<80 mmHg) NR=not reported. PreHTN=prehypertension (120-139/80-89 mmHg). SBP=systolic blood pressure. T2DM= type 2 diabetes mellitus. VO2max=maximal oxygen consumption. RM=repetition maximum. RPE=rating of perceived exertion. W=number of women. Wks=weeks. Data are presented as mean ± standard deviation unless otherwise specified. Study quality was assessed using a modified version of the Downs and Black Methodological checklist. A score of total items satisfied out 33 is given and converted into a percent score, taking the total score divided by the total possible score (33) multiplied by 100.\*blood pressure was significantly reduced pre- to post intervention (*p*<0.05)&data are presented as mean ± standard error$data are presented as mean (95% confidence interval). An interval which does not contain zero indicates a significant reduction in blood pressure.%data are presented as mean (range)^data are presented as within-group effect sizes (CE and Con) and between group effect sizes (CE vs Con) for the individual studies, converted into the raw BP changes in mmHg |