

Chart I – Search strategies of the systematic review

Database	Search strategies
PubMed	<ol style="list-style-type: none"> <li>1. "musculoskeletal diseases"[MeSH] OR "musculoskeletal pain"[MeSH] OR "musculoskeletal system"[MeSH] OR "leg injuries"[MeSH] OR "arm injuries"[MeSH] OR "upper extremity"[MeSH] OR "lower extremity"[MeSH] OR "connective tissue diseases"[MeSH] OR "soft tissue injuries"[MeSH] OR "rheumatology"[MeSH] OR "orthopedics"[MeSH] OR "back pain"[MeSH] OR "neck pain"[MeSH] OR "athletic injuries"[MeSH] OR "back injuries"[MeSH] OR "joint dislocations"[MeSH] OR "fractures, bone"[MeSH] OR "fractures, cartilage"[MeSH] OR "hand injuries"[MeSH] OR "hip injuries"[MeSH] OR "sprains and strains"[MeSH] OR "tendon injuries"[MeSH] OR "ligaments"[MeSH] OR "bone diseases"[MeSH] OR arthritis OR chondrocalcinosis OR fibromyal* OR fibrositis OR fibrositides OR low back OR lupus OR osteitis OR osteoarthritis* OR osteoarthrop* OR osteochondr* OR hyperostos* OR osteonecros* OR osteoporos* OR periarthriti* OR rheumati* OR bone OR ligament* OR fracture OR tendon* OR muscle* OR "musculoskeletal injur*" OR menisc* OR "knee pain" OR fascia <li>2. blood flow restrict* OR blood-flow restrict* OR kaatsu OR "therapeutic occlusion"[MeSH] OR "occlu* training" OR "restrict* blood" OR "vascular restrict*" OR "vascular occlu*" OR "limb occlu*" OR "blood rest*" OR "blood occlu*" OR "arterial occlu*" OR "arterial restrict*" OR "venous restrict*" OR "occlu* pressure*" OR "hypoxia* training" OR "ischemi* training" OR "ischemi* strength*" OR "hypoxia* strength*" OR "ischemi* hypertroph*" OR "hypoxia* hypertroph**" <li>3. "rehabilitation"[Mesh] OR rehab* OR "physical therapy modalities"[Mesh] OR "rehabilitation centers"[Mesh] OR "physical and rehabilitation medicine"[Mesh] OR "rehabilitation research"[Mesh] OR "telerehabilitation"[Mesh] OR telerehab* OR physiot* OR "exercise"[Mesh] OR exercise* OR physical OR functional readapt* OR activit* OR kinesiotherapy OR "exercise movement techniques"[Mesh] OR training OR "resistance training"[Mesh] OR strength* OR weight bearing OR stretch* OR physical fitness OR exertion OR sport* OR therapeutic exercise OR resistance training OR aerobic exercises OR weightlifting OR treadmill* OR run OR walk* OR jogg* OR sprint* OR rowing OR bicycl* OR cycl* OR gym OR duranc* OR run OR activity* OR isometric* isokinetic <li>4. (randomized controlled trial [pt] OR controlled clinical trial [pt] OR randomized [tiab] OR placebo [tiab] OR drug therapy [sh] OR randomly [tiab] OR trial [tiab] OR groups [tiab]) <li>5. "animals"[Mesh] NOT "humans"[Mesh] <p>#1 AND #2 AND #3 AND #4 NOT #5 Result:4.019</p>

Embase	<ol style="list-style-type: none"> 1. 'musculoskeletal disease'/exp OR 'rheumatology'/exp OR 'orthopedics'/exp OR 'musculoskeletal pain'/exp OR 'soft tissue injury'/exp OR 'limb injury'/exp OR 'upper limb'/exp OR 'lower limb'/exp OR 'connective tissue disease'/exp OR 'musculoskeletal system'/exp OR 'leg injury'/exp OR 'upper limb'/exp OR 'backache'/exp OR 'neck pain'/exp OR 'knee disease'/exp OR 'sport injury'/exp OR 'arthropathy'/exp OR 'dislocation'/exp OR 'fracture'/exp OR 'hand disease'/exp OR 'hip disease'/exp OR 'chondropathy'/exp OR 'muscle disease'/exp OR 'bone disease'/exp OR 'sprain'/exp OR 'ligament and tendon injury'/exp OR arthritis OR chondrocalcinosis OR fibromyal* OR fibrositis OR fibrositides OR hyperostos* OR 'low back' OR lupus OR osteitis OR osteoarthritis* OR osteoarthrop* OR osteochondr* OR osteonecros* OR osteoporos* OR periarthriti* OR rheumati* OR 'knee pain' OR fracture OR ligament* OR tendon* OR muscle* OR musculoskeletal OR menisc* OR fascia OR bone OR injur* 2. 'blood flow restriction'/exp OR 'blood-flow restr*' OR kaatsu OR 'therapeutic occlusion' OR 'occlu* training' OR 'restrict* blood' OR 'vascular restrict*' OR 'vascular occlu*' OR 'limb occlu*' OR 'blood rest*' OR 'blood occlu*' OR 'arterial occlu*' OR 'arterial restrict*' OR 'venous restrict*' OR 'occlu* pressure*' OR 'hypoxia* training' OR 'ischemi* training' OR 'ischemi* strength*' OR 'hypoxia* strength*' OR 'ischemi* hypertroph*' OR 'hypoxia* hypertroph*' 3. 'rehabilitation'/exp OR rehab* OR 'functional readaptation' OR 'medical rehabilitation' OR readaption OR readjustment OR 'rehabilitation engineering' OR 'rehabilitation potential' OR 'rehabilitation process' OR 'rehabilitation program' OR 'rehabilitation programme' OR telerehab* OR 'rehabilitative treatment' OR 'sport'/exp OR 'rehabilitation care'/exp OR 'physiotherapy'/exp OR 'kinesiotherapy'/exp OR 'dancing'/exp OR 'exercise'/exp OR 'walking'/exp OR 'physical activity'/exp OR 'resistance training'/exp OR sport* OR walk* OR swim* OR aquatic OR danc* OR running OR jogging OR aerobic* OR pilates OR exercis* OR gym* OR isometric* OR therap* OR training* OR physical OR strength OR resistance OR activity* OR fitness* OR 'weight-bearing' OR run OR isokinetic OR physiot* 4. 'clinical trial'/de OR 'randomized controlled trial'/de OR 'randomization'/de OR 'single blind procedure'/de OR 'double blind procedure'/de OR 'crossover procedure'/de OR 'placebo'/de OR 'prospective study'/de OR 'randomi?ed controlled' NEXT/1 trial* OR rct OR 'randomly allocated' OR 'allocated randomly' OR 'random allocation' OR allocated NEAR/2 random OR single NEXT/1 blind* OR double NEXT/1 blind* OR (treble OR triple) NEAR/1 blind* OR placebo* 5. ('animal'/exp) NOT ('human'/exp) <p>#1 AND #2 AND #3 AND #4 NOT #5</p> <p>#6 AND [embase]/lim NOT ([embase]/lim AND [medline]/lim)</p> <p>Result:408</p>
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PEDro	<ol style="list-style-type: none">1. blood flow restri* AND [Filter]: Clinical trial <p>Result: 46</p> <ol style="list-style-type: none">2. blood flow restriction AND [Filter]: Clinical trial <p>Result: 38</p> <ol style="list-style-type: none">3. kaatsu AND [Filter]: Clinical trial <p>Result: 3</p> <ol style="list-style-type: none">4. restrict* blood AND [Filter]: Clinical trial <p>Result: 128</p> <ol style="list-style-type: none">5. therapeutic occlusion AND [Filter]: Clinical trial <p>Result: 2</p> <ol style="list-style-type: none">6. occlu* training AND [Filter]: Clinical trial <p>Result: 61</p> <ol style="list-style-type: none">7. vascular restrict* AND [Filter]: Clinical trial <p>Result: 13</p> <ol style="list-style-type: none">8. vascular occlu* AND [Filter]: Clinical trial <p>Result: 27</p> <ol style="list-style-type: none">9. limb occlu* AND [Filter]: Clinical trial <p>Result: 9</p> <ol style="list-style-type: none">10. arterial occlu* AND [Filter]: Clinical trial <p>Result: 42</p> <ol style="list-style-type: none">11. blood occlu* AND [Filter]: Clinical trial <p>Result: 48</p> <ol style="list-style-type: none">12. arterial restrict* AND [Filter]: Clinical trial <p>Result: 19</p> <ol style="list-style-type: none">13. venous restrict* AND [Filter]: Clinical trial <p>Result: 13</p> <ol style="list-style-type: none">14. occlu* pressure* AND [Filter]: Clinical trial <p>Result: 55</p> <ol style="list-style-type: none">15. hypoxia* training AND [Filter]: Clinical trial <p>Result: 18</p> <ol style="list-style-type: none">16. ischemi* training AND [Filter]: Clinical trial <p>Result: 169</p> <ol style="list-style-type: none">17. ischemi* strength* AND [Filter]: Clinical trial <p>Result: 47</p> <ol style="list-style-type: none">18. hypoxia* strength* AND [Filter]: Clinical trial <p>Result: 3</p> <ol style="list-style-type: none">19. ischemi* hypertrophy* AND [Filter]: Clinical trial <p>Result: 1</p> <ol style="list-style-type: none">20. hypoxia* hypertrophy* AND [Filter]: Clinical trial <p>Result: 0</p>
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CENTRAL	<ol style="list-style-type: none"> 1. MeSH descriptor: [Musculoskeletal Diseases] explode all trees 2. MeSH descriptor: [Musculoskeletal Pain] explode all trees 3. MeSH descriptor: [Musculoskeletal System] explode all trees 4. MeSH descriptor: [Leg Injuries] explode all trees 5. MeSH descriptor: [Arm Injuries] explode all trees 6. MeSH descriptor: [Upper Extremity] explode all trees 7. MeSH descriptor: [Lower Extremity] explode all trees 8. MeSH descriptor: [Soft Tissue Injuries] explode all trees 9. MeSH descriptor: [Connective Tissue Diseases] explode all trees 10. MeSH descriptor: [Rheumatology] explode all trees 11. MeSH descriptor: [Orthopedics] explode all trees 12. arthritis OR chondrocalcinosis OR fibromyal* OR fibrositis OR fibrositides OR hyperostos* OR low back OR lupus OR osteitis OR osteoarthritis* OR osteoarthrop* OR osteochondr* OR osteonecros* OR osteoporos* OR periarthriti* OR rheumati* OR "knee pain" OR fracture OR ligament* OR injur* OR tendon* OR muscle* OR musculoskeletal OR menisc* OR fascia OR bone 13. MeSH descriptor: [Back Pain] explode all trees 14. MeSH descriptor: [Neck Pain] explode all trees 15. MeSH descriptor: [Athletic Injuries] explode all trees 16. MeSH descriptor: [Back Injuries] explode all trees 17. MeSH descriptor: [Joint Dislocations] explode all trees 18. MeSH descriptor: [Fractures, Bone] explode all trees 19. MeSH descriptor: [Fractures, Cartilage] explode all trees 20. MeSH descriptor: [Hand Injuries] explode all trees 21. MeSH descriptor: [Hip Injuries] explode all trees 22. MeSH descriptor: [Knee Injuries] explode all trees 23. MeSH descriptor: [Ankle Injuries] explode all trees 24. MeSH descriptor: [Sprains and Strains] explode all trees 25. MeSH descriptor: [Tendon Injuries] explode all trees 26. MeSH descriptor: [Ligaments] explode all trees 27. MeSH descriptor: [Bone Diseases] explode all trees 28. blood flow restriction OR "blood-flow restrict*" OR kaatsu OR "occlu* training" OR "restrict* blood" OR "vascular restrict*" OR "vascular occlu*" OR "limb occlu*" OR "blood rest*" OR "blood occlu*" OR "arterial occlu*" OR "arterial restrict*" OR "venous restrict*" OR "occlu* pressure*" OR "hypoxia* training" OR "ischemi* training" OR "ischemi* strength*" OR "hypoxia* strength*" OR "ischemi* hypertroph*" OR "hypoxia* hypertroph*" 29. MeSH descriptor: [Therapeutic Occlusion] explode all trees
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30. rehab* OR telerehab* OR physiot* OR exercise* OR physical OR functional readapt* OR activit* OR kinesiotherapy OR training OR strength* OR weight bearing OR stretch* OR fitness OR exertion OR sport* OR therapeutic exercise OR resistance training OR aerobic exercises OR weightlifting OR treadmill* OR run OR walk* OR jogg* OR sprint* OR rowing OR bicycl* OR cycl* OR gym OR duranc* OR run OR activity* OR isometric* OR isokinetic
31. MeSH descriptor: [Rehabilitation] explode all trees
32. MeSH descriptor: [Physical Therapy Modalities] explode all trees
33. MeSH descriptor: [Rehabilitation Centers] explode all trees
34. MeSH descriptor: [Physical and Rehabilitation Medicine] explode all trees
35. MeSH descriptor: [Rehabilitation Research] explode all trees
36. MeSH descriptor: [Telerehabilitation] explode all trees
37. MeSH descriptor: [Exercise] explode all trees
38. MeSH descriptor: [Exercise Movement Techniques] explode all trees
39. MeSH descriptor: [Resistance Training] explode all trees
40. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #25 OR #26 OR #27
41. #28 OR #29
42. #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39
43. #40 AND #41 AND #42 [Limits in Trials]

Result:479

CINAHL	<ol style="list-style-type: none"> 1. (MH "musculoskeletal diseases") OR (MH "musculoskeletal system") OR (MH "leg injuries") OR (MH "arm injuries") OR (MH "upper extremity") OR (MH "lower extremity") OR (MH "connective tissue diseases") OR (MH "soft tissue injuries") OR (MH "rheumatology") OR (MH "orthopedics") OR arthritis OR chondrocalcinosis OR fibromyal* OR fibrositis OR fibrositides OR hyperostos* OR low back OR lupus OR osteitis OR osteoarthritis* OR osteoarthrop* OR osteochondr* OR osteonecros* OR osteoporos* OR periarthriti* OR rheumati* OR (MH "back pain") OR (MH "neck pain") OR (MH "athletic injuries") OR (MH "back injuries") OR (MH "hand injuries") OR (MH "hip injuries") OR (MH "tendon injuries") OR (MH "ligaments") OR "joint dislocations" OR fracture OR sprain* OR strain* OR "knee pain" OR ligament* OR injur* OR tendon* OR muscle* OR musculoskeletal OR menisc* OR fascia OR bone 2. blood flow restriction OR blood-flow restrict* OR kaatsu OR "therapeutic occlusion" OR occlu* training OR restrict* blood OR vascular restrict* OR vascular occlu* OR limb occlu* OR blood rest* OR blood occlu* OR arterial occlu* OR arterial restrict* OR venous restrict* OR occlu* pressure* OR hypoxia* training OR ischemi* training OR ischemi* strength* OR hypoxia* strength* OR ischemi* hypertroph* OR hypoxia* hypertroph* 3. (MH "rehabilitation") OR (MH "rehabilitation centers") OR (MH "telerehabilitation") OR (MH "exercise") OR (MH "resistance training") OR rehab* OR telerehab* OR physical therap* OR physiot* OR exercise* OR physical OR functional readapt* OR activit* OR kinesiotherapy OR training OR strength* OR "weight bearing" OR stretch* OR physical fitness OR exertion OR sport* OR therapeutic exercise OR resistance training OR aerobic exercises OR weightlifting OR treadmill* OR run OR walk* OR jogg* OR sprint* OR rowing OR bicycl* OR cycl* OR gym OR enduranc* OR run OR activity* OR isometric* OR isokinetic 4. MH randomized controlled trials OR MH double-blind studies OR MH single-blind studies OR MH random assignment OR MH pretest-posttest design OR MH cluster sample OR TI (randomised OR randomized) OR AB (random*) OR TI (trial) OR MH (placebos) OR PT (randomized controlled trial) OR AB (control W5 group) OR MH (crossover design) OR MH (comparative studies) OR AB (cluster W3 RCT) OR MH (sample size) AND AB (assigned OR allocated OR control) <ol style="list-style-type: none"> 5. MH animals+ OR MH (animal studies) OR TI (animal model*) 6. MH (human) 7. S5 NOT S6 <p>S1 AND S2 AND S3 AND S4 NOT S7 Result:556</p>
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SPORTDiscus	<ol style="list-style-type: none"> 1. (SU 'musculoskeletal diseases') OR (SU "musculoskeletal system") OR (SU "leg injuries") OR (SU "arm injuries") OR (SU "connective tissue diseases") OR (SU "soft tissue injuries") OR (SU "rheumatology") OR (SU "orthopedics") OR (SU "neck pain") OR (SU "joint dislocations") OR (SU "bone fractures") OR (SU "hip injuries") OR (SU "ligaments") OR (SU "bone disease") OR "musculoskeletal pain" OR "upper extremity" OR "lower extremity" OR arthritis OR chondrocalcinosis OR fibromyal* OR fibrositis OR fibrositides OR hyperostos* OR low back OR lupus OR osteitis OR osteoarthritis* OR osteoarthrop* OR osteochondr* OR osteonecros* OR osteoporos* OR periarthriti* OR rheumati* OR "back pain" OR "back injuries" OR cartilage fractures OR "hand injuries" OR sprain* OR strain* OR tendon* OR "knee pain" OR ligament* OR injur* OR menisc* OR muscle* OR musculoskeletal OR fascia OR bone 2. blood flow restriction OR blood-flow restrict* OR kaatsu OR "therapeutic occlusion" OR occlu* training OR restrict* blood OR vascular restrict* OR vascular occlu* OR limb occlu* OR blood rest* OR blood occlu* OR arterial occlu* OR arterial restrict* OR venous restrict* OR occlu* pressure* OR hypoxia* training OR ischemi* training OR ischemi* strength* OR hypoxia* strength* OR ischemi* hypertroph* OR hypoxia* hypertroph* 3. (SU "rehabilitation") OR (SU "rehabilitation centers") OR (SU "rehabilitation research") OR (SU "resistance training") OR (SU "exercise") OR rehab* OR telerehab* OR physiot* OR exercise* OR physical OR functional readapt* OR activit* OR kinesiotherapy OR training OR strength* OR weight bearing OR stretch* OR physical fitness OR exertion OR sport* OR therapeutic exercise OR resistance training OR aerobic exercises OR weightlifting OR treadmill* OR run OR walk* OR jogg* OR sprint* OR rowing OR bicycl* OR cycl* OR gym OR enduranc* OR run OR activity* OR isometric* OR isokinetic 4. SU randomized controlled trials OR SU double-blind studies OR SU single-blind studies OR SU random assignment OR SU pretest-posttest design OR SU cluster sample OR TI (randomised OR randomized) OR AB (random*) OR TI (trial) OR SU (placebos) OR (randomized controlled trial) OR AB (control W5 group) OR SU (crossover design) OR SU (comparative studies) OR AB (cluster W3 RCT) OR SU (sample size) AND AB (assigned OR allocated OR control) <p>S1 AND S2 AND S3 AND S4 Result:560</p>
LILACS	<p>(blood flow restriction) OR (blood-flow restrict*) OR (kaatsu) OR (mh:(Therapeutic Occlusion)) OR ("occlu* training") OR ("restrict* blood") OR ("vascular restrict*") OR ("vascular occlu*") OR ("limb occlu*") OR ("blood rest*") OR ("blood occlu*") OR ("arterial occlu*") OR ("arterial restrict*") OR ("venous restrict*") OR ("occlu* pressure*") OR ("hypoxia* training") OR ("ischemi* training") OR ("ischemi* strength*") OR ("hypoxia* strength*") OR ("ischemi* hypertroph*") OR ("hypoxia* hypertroph*")</p> <p>Result:105</p>
J-STAGE	<p>"blood flow restriction" 114 kaatsu 84 Result:198</p>

CLINICAL TRIALS	<p>blood flow restriction AND [Filter]: Interventional 197</p> <p>kaatsu AND [Filter]: Interventional 9</p> <p>"therapeutic occlusion" AND [Filter]: Interventional 1</p> <p>"occlusion training" AND [Filter]: Interventional 9</p> <p>"blood restriction" AND [Filter]: Interventional 2</p> <p>"vascular restriction" AND [Filter]: Interventional 0</p> <p>"vascular occlusion" AND [Filter]: Interventional 102</p> <p>"limb occlusion" AND [Filter]: Interventional 40</p> <p>"blood occlusion" AND [Filter]: Interventional 4</p> <p>"arterial restriction" AND [Filter]: Interventional 0</p> <p>"venous restriction" AND [Filter]: Interventional 0</p> <p>"occlusion pressure" AND [Filter]: Interventional 76</p> <p>"hypoxia training" AND [Filter]: Interventional 1</p> <p>"ischemic training" AND [Filter]: Interventional 2</p> <p>"ischemic strengt" AND [Filter]: Interventional 0</p> <p>"hypoxia strength" AND [Filter]: Interventional 0</p> <p>"ischemic hypertrophy" AND [Filter]: Interventional 0</p> <p>"hypoxia hypertrophy" AND [Filter]: Interventional 0</p> <p>Result:443</p>
Open Grey	<p>blood flow rest* OR kaatsu OR "therapeutic occlusion" OR "occlu* training" OR "restrict* blood" OR "vascular restrict*" OR "vascular occlu*" OR "limb occlu*" OR "blood rest*" OR "blood occlu*" OR "arterial occlu*" OR "arterial restrict*" OR "venous restrict*" OR "occlu* pressure*" OR "hypoxia* training" OR "ischemi* training" OR "ischemi* strength*" OR "hypoxia* strength*" OR "ischemi* hypertroph*" OR "hypoxia* hypertroph</p> <p>Result:77</p>
Proquest	<p>"blood flow restriction"</p> <p>677</p> <p>kaatsu</p> <p>183</p> <p>Result:860</p>
Total: 8.444	