

Appendix 1: Search Strategies

MEDLINE	772
EMBASE	2017
SPORTDiscus	610
Subtotal	3399
-dupes	-548
Total	2851

MEDLINE

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) <1946 to January 2020>

Search Strategy:

-
- 1 randomized controlled trial.pt.
 - 2 controlled clinical trial.pt.
 - 3 randomized.ab.
 - 4 placebo.ab.
 - 5 drug therapy.fs.
 - 6 randomly.ab.
 - 7 trial.ab.
 - 8 groups.ab.
 - 9 or/1-8
 - 10 exp cohort studies/
 - 11 cohort\$.tw.
 - 12 exp case-control studies/
 - 13 Comparative Study/
 - 14 longitud\$.mp.
 - 15 or/10-14
 - 16 (animals not (humans and animals)).sh.
 - 17 9 or 15
 - 18 17 not 16
 - 19 (case\$ and series).tw. or case reports.pt. or (case\$ adj2 report\$.tw. or (case\$ adj2 stud\$).tw.
 - 20 18 not 19
 - 21 exp Doping in Sports/
 - 22 (athletic performance or exercise performance or performance or athletes or endurance or aerobic capacity or doping or performance enhancer).mp.
 - 23 muscle contraction/ or excitation contraction coupling/ or isometric contraction/ or isotonic contraction/

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- 24 MVC.mp.
- 25 exp Muscle, Skeletal/ph [Physiology]
- 26 Muscles/ph [Physiology]
- 27 Physical Exertion/
- 28 (jumping or sprinting or training).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
- 29 ergogen*.mp.
- 30 or/21-29
- 31 Erythropoietin/
- 32 Glycoprotein hormone.mp.
- 33 Erythropoietin.mp.
- 34 Erythropoiesis/de [Drug Effects]
- 35 hematopoietin.mp.
- 36 hemopoietin.mp.
- 37 erythropoietic.mp.
- 38 or/31-37
- 39 20 and 30 and 38
- 40 30 and 38
- 41 limit 40 to ("therapy (maximizes sensitivity)" or "therapy (maximizes specificity)" or "therapy (best balance of sensitivity and specificity)")
- 42 41 not 16
- 43 39 or 42

EMBASE

Database: EMBASE <1974 to January 2020>

Search Strategy:

-
- 1 doping/
 - 2 (athletic performance or exercise performance or performance or athletes or endurance or aerobic capacity or doping or performance enhancer).mp.
 - 3 exp muscle contraction/
 - 4 MVC.mp.
 - 5 exp skeletal muscle/
 - 6 exp exercise/
 - 7 (jumping or sprinting or training).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
 - 8 ergogen*.mp.

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- 9 or/1-8
- 10 erythropoietin/
- 11 Erythropoietin.mp.
- 12 Glycoprotein hormone.mp.
- 13 erythropoiesis/
- 14 hematopoietin.mp.
- 15 hemopoietin.mp.
- 16 erythropoietic.mp.
- 17 or/10-16
- 18 9 and 17
- 19 clinical study/
- 20 case control study/
- 21 family study/
- 22 longitudinal study/
- 23 retrospective study/
- 24 prospective study/
- 25 cohort analysis/
- 26 (Cohort adj (study or studies)).mp.
- 27 (Case control adj (study or studies)).tw.
- 28 (follow up adj (study or studies)).tw.
- 29 (observational adj (study or studies)).tw.
- 30 (epidemiologic\$ adj (study or studies)).tw.
- 31 (cross sectional adj (study or studies)).tw.
- 32 or/19-31
- 33 18 and 32
- 34 clinical article/
- 35 exp clinical study/
- 36 clinical trial/
- 37 controlled study/
- 38 randomized controlled trial/
- 39 major clinical study/
- 40 double blind procedure/
- 41 multicenter study/
- 42 single blind procedure/
- 43 phase 3 clinical trial/
- 44 phase 4 clinical trial/
- 45 crossover procedure/
- 46 placebo/

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- 47 or/34-46
 48 allocat\$.mp.
 49 assign\$.mp.
 50 blind\$.mp.
 51 (clinic\$ adj25 (study or trial)).mp.
 52 compar\$.mp.
 53 control\$.mp.
 54 cross?over.mp.
 55 factorial\$.mp.
 56 follow?up.mp.
 57 placebo\$.mp.
 58 prospectiv\$.mp.
 59 random\$.mp.
 60 ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj25 (blind\$ or mask\$)).mp.
 61 trial.mp.
 62 (versus or vs).mp.
 63 or/48-62
 64 47 and 63
 65 exp animals/ or exp invertebrate/ or animal experiment/ or animal model/ or animal tissue/
 or animal cell/ or nonhuman/
 66 human/ or normal human/ or human cell/
 67 65 and 66
 68 65 not 67
 69 64 not 68
 70 18 and 69
 71 limit 18 to ("therapy (maximizes sensitivity)" or "therapy (maximizes specificity)" or
 "therapy (best balance of sensitivity and specificity)")
 72 33 or 70 or 71

SPORTDiscus

Database: SPORTDiscus <1974 to January 2020>

Search Strategy:

-
- S20 S10 AND S19
 S19 S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18
 S18 erythropoietic

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- S17 hemopoietin
- S16 hematopoietin
- S15 erythropoiesis
- S14 Glycoprotein hormone
- S13 EPO
- S12 Erythropoietin
- S11 DE "ERYTHROPOIETIN"
- S10 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9
- S9 DE "PHYSICAL fitness" OR DE "SPORTS sciences" OR DE "COMPOUND exercises" OR DE "EXERCISE tolerance" OR DE "MUSCLE strength"
- (DE "PHYSICAL training & conditioning" OR DE "ACROBATICS -- Training" OR DE "ALTITUDE training" OR DE "ANAEROBIC training" OR DE "ARCHERY -- Training" OR DE "BADMINTON (Game) -- Training" OR DE "BASE training (Exercise)" OR DE "BASEBALL -- Training" OR DE "BASKETBALL -- Training" OR DE "BICYCLE racing -- Training" OR DE "BODYBUILDING -- Training" OR DE "BOWLING -- Training" OR DE "BOXING -- Training" OR DE "BULLFIGHT training & conditioning" OR DE "BUNGEE jumping training & conditioning" OR DE "CANOES & canoeing -- Training" OR DE "CAVING training & conditioning" OR DE "COMPOUND exercises" OR DE "CONTINUOUS training (Exercise)" OR DE "CONTRAST training (Physical training & conditioning)" OR DE "COXSWAINING -- Training" OR DE "CRICKET training & conditioning" OR DE "CROSS-training (Sports)" OR DE "CYCLING -- Training" OR DE "DANCE training & conditioning" OR DE "DEEP diving training & conditioning" OR DE "DIVING -- Training" OR DE "DOGSLEDDING training & conditioning" OR DE "ENDURANCE sports -- Training" OR DE "FENCING -- Training" OR DE "FIELD hockey training & conditioning" OR DE "FOOTBALL -- Training" OR DE "FUNCTIONAL training" OR DE "GLIDING & soaring training & conditioning" OR DE "GOLF -- Training" OR DE "GYMNASTICS -- Training" OR DE "HANDBALL training & conditioning" OR DE "HIKING training & conditioning" OR DE "HOCKEY -- Training" OR DE "HUNTING training & conditioning" OR DE "INTERVAL training" OR DE "ISOLATION exercises" OR DE "KAYAKING -- Training" OR DE "KNIFE fighting -- Training" OR DE "KORFBALL -- Training" OR DE "LACROSSE training & conditioning" OR DE "LONG slow distance training" OR DE "MARTIAL arts - Training" OR DE "MOTORSPORTS training & conditioning" OR DE "MOUNTAINEERING -- Training" OR DE "NUNCHAKU -- Training" OR DE "ORIENTEERING -- Training" OR DE "OVERTRAINING" OR DE
- S8

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"PACE training" OR DE "PARACHUTING training & conditioning" OR DE "PARAKITING training & conditioning" OR DE "PERIODIZATION training" OR DE "PERSONAL training" OR DE "POLO training & conditioning" OR DE "PRACTICE (Sports)" OR DE "PRESEASON (Sports)" OR DE "RACQUETBALL -- Training" OR DE "RECOVERY training" OR DE "RELAY racing -- Training" OR DE "REPETITION training" OR DE "RESISTANCE training (Physical training & conditioning)" OR DE "ROCK climbing -- Training" OR DE "RODEO training & conditioning" OR DE "ROLLER skating training & conditioning" OR DE "ROWING -- Training" OR DE "RUGBY football -- Training" OR DE "RUNNING -- Training" OR DE "SHOT putting -- Training" OR DE "SKATING -- Training" OR DE "SKIS & skiing -- Training" OR DE "SKYDIVING training & conditioning" OR DE "SOCCER -- Training" OR DE "SOFTBALL -- Training" OR DE "SPEED endurance training" OR DE "SQUASH (Game) -- Training" OR DE "STRENGTH training" OR DE "SURFING -- Training" OR DE "SWIMMING -- Training" OR DE "TABLE tennis training & conditioning" OR DE "TEAM handball -- Training" OR DE "TENNIS -- Training" OR DE "TRACK & field -- Training" OR DE "TRIATHLON -- Training" OR DE "TUG of war (Game) -- Training" OR DE "VAULTING (Horsemanship) -- Training" OR DE "VOLLEYBALL -- Training" OR DE "WATER polo -- Training" OR DE "WEIGHT training" OR DE "WHEELCHAIR sports -- Training" OR DE "WINTER sports training & conditioning" OR DE "WRESTLING -- Training" OR DE "YOGA training & conditioning") AND (DE "PHYSICAL fitness" OR DE "EXERCISE tolerance" OR DE "MUSCLE strength" OR DE "BODY composition")

- S7 DE "JUMPING" OR DE "JUMPING -- Training"
- S6 (DE "SPRINTING") OR (DE "SPRINTING -- Training")
- S5 ergogenic
- S4 DE "PERFORMANCE-enhancing drugs"
- S3 DE "ERGOGENIC aids"
- S2 DE "DOPING in sports" OR DE "BLOOD doping in sports"
- S1 doping