

Supplementary Appendix

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Appendix SA.1. Search Strategy

PubMed, 04/21/2022 – 4,667 results:

("Arm Injuries"[mh] OR "Athletic Injuries"[mh] OR "Back Injuries"[mh] OR "Bone and Bones/injuries"[mh] OR "Fractures, Bone"[mh] OR "Fractures, Cartilage"[mh] OR "Fractures, Multiple"[mh] OR "Hand Injuries"[mh] OR "Hip Injuries"[mh] OR "Joint Dislocations"[mh] OR "Leg Injuries"[mh] OR "Muscles/injuries"[mh] OR "Musculoskeletal System/injuries"[mh] OR "Neck Injuries"[mh] OR "Shoulder Injuries"[mh] OR "Spinal Cord Injuries"[mh] OR "Sprains and Strains"[mh] OR "Tendon Injuries"[mh] OR acl-injur*[tiab] OR ankle-injur*[tiab] OR arm-injur*[tiab] OR athletic-injur*[tiab] OR back-injur*[tiab] OR back-pain[tiab] OR bone-injur*[tiab] OR bone-stress-injur*[tiab] OR cartilage-injur*[tiab] OR finger-injur*[tiab] OR foot-injur*[tiab] OR fracture-injur*[tiab] OR hamstring-injur*[tiab] OR hand-injur*[tiab] OR hip-injur*[tiab] OR injury-mitigation[tiab] OR injury-prevention[tiab] OR injury-reduction[tiab] OR injury-risk*[tiab] OR joint-injur*[tiab] OR knee-injur*[tiab] OR leg-injur*[tiab] OR ligament-injur*[tiab] OR limb-injur*[tiab] OR muscle-injur*[tiab] OR musculoskeletal-disorder*[tiab] OR musculoskeletal-injur*[tiab] OR neck-injur*[tiab] OR overuse-injur*[tiab] OR preventable-injur*[tiab] OR reconditioning-program*[tiab] OR rotator-cuff-injur*[tiab] OR shoulder-injur*[tiab] OR skeletal-injur*[tiab] OR spinal-cord-injur*[tiab] OR spinal-injur*[tiab] OR spine-injur*[tiab] OR tendon-injur*[tiab] OR wrist-injur*[tiab] OR (injur*[ti] AND ("Risk Factors"[mh] OR mitigation[ti] OR prevention[ti] OR preventable[ti] OR risk*[ti])) OR (assessment[tiab] AND recruit[tiab] AND motivation [tiab] AND strength[tiab])) AND ("Military Personnel" OR active-duty[tiab] OR airman[tiab] OR airmen[tiab] OR air-force[tiab] OR armed-forces[tiab] OR army[tiab] OR corpsman[tiab] OR corpsmen[tiab] OR defense-force*[tiab] OR defence-force*[tiab] OR flight-crew*[tiab] OR infantr*[tiab] OR marine-

corps[tiab] OR marines[tiab] OR military[tiab] OR national-guard[tiab] OR naval[tiab] OR navy[tiab] OR reservist*[tiab] OR sailor[tiab] OR sailors[tiab] OR security-forces[tiab] OR service-member*[tiab] OR servicemember*[tiab] OR service-wom*[tiab] OR servicewomen[tiab] OR servicewoman[tiab] OR special-forces[tiab] OR special-operations[tiab] OR soldier[tiab] OR soldiers[tiab] OR submarine*[tiab] OR triccare[tiab] OR troops[tiab] OR uniformed-services[tiab]) AND english[lang]

Embase, 04/21/2022 – 5,731 results:

1. ('limb injury'/exp OR 'musculoskeletal injury'/exp OR 'sport injury'/exp OR ('bone'/exp AND 'prevention'/exp) OR ('musculoskeletal system'/exp AND 'prevention'/exp) OR (acl-injur* OR ankle-injur* OR arm-injur* OR athletic-injur* OR back-injur* OR back-pain OR bone-injur* OR bone-stress-injur* OR cartilage-injur* OR finger-injur* OR foot-injur* OR fracture-injur* OR hamstring-injur* OR hand-injur* OR hip-injur* OR injury-mitigation OR injury-prevention OR injury-reduction OR injury-risk* OR joint-injur* OR knee-injur* OR leg-injur* OR ligament-injur* OR limb-injur* OR muscle-injur* OR musculoskeletal-disorder* OR musculoskeletal-injur* OR neck-injur* OR overuse-injur* OR preventable-injur* OR reconditioning-program* OR rotator-cuff-injur* OR shoulder-injur* OR skeletal-injur* OR spinal-cord-injur* OR spinal-injur* OR spine-injur* OR tendon-injur* OR wrist-injur*):ab,ti)
2. (injur*:ti AND ('risk factor'/exp OR (mitigation OR prevention OR preventable OR risk*):ti))
3. (assessment AND recruit AND motivation AND strength):ab,ti
4. #1 OR #2 OR #3

5. ('army'/exp OR 'air force'/exp OR 'military deployment'/exp OR 'military health'/de OR (active-duty OR airman OR airmen OR air-force OR armed-forces OR army OR corpsman OR corpsmen OR defense-force* OR defence-force* OR flight-crew* OR infantr* OR marine-corps OR marines OR military OR national-guard OR naval OR navy OR reservist* OR sailor OR sailors OR security-forces OR service-member* OR servicemember* OR service-wom* OR servicewomen OR servicewoman OR special-forces OR special-operations OR soldier OR soldiers OR submarine* OR tricare OR troops OR uniformed-services):ab,ti)

6. #4 AND #5 AND english[lang])

CINAHL, 04/21/2022 – 3,526 results:

1. (MH "Arm Injuries+" OR MH "Athletic Injuries+" OR MH "Back Injuries+" OR MH "Fractures+" OR MH "Hand Injuries+" OR MH "Leg Injuries+" OR MH "Ligament Injuries+" OR MH "Neck Injuries+" OR MH "Spinal Cord Injuries+" OR MH "Spinal Injuries+" OR MH "Sprains and Strains+" OR MH "Tendon Injuries+" OR MH "Musculoskeletal System+" OR MH "Musculoskeletal Diseases+/PC" OR acl-injur* OR ankle-injur* OR arm-injur* OR athletic-injur* OR back-injur* OR back-pain OR bone-injur* OR bone-stress-injur* OR cartilage-injur* OR finger-injur* OR foot-injur* OR fracture-injur* OR hamstring-injur* OR hand-injur* OR hip-injur* OR injury-mitigation OR injury-prevention OR injury-reduction OR injury-risk* OR joint-injur* OR knee-injur* OR leg-injur* OR ligament-injur* OR limb-injur* OR muscle-injur* OR musculoskeletal-disorder* OR musculoskeletal-injur* OR neck-injur* OR overuse-injur* OR preventable-injur* OR reconditioning-program* OR rotator-cuff-injur* OR shoulder-

injur* OR skeletal-injur* OR spinal-cord-injur* OR spinal-injur* OR spine-injur* OR tendon-injur* OR wrist-injur*)

2. TI (injur*) AND (MH "Risk Factors" OR TI (mitigation OR prevention OR preventable OR risk*))

3. (assessment AND recruit AND motivation AND strength)

4. #1 OR #2 OR #3

5. (MH "Military Personnel+" OR MH "Military Deployment+" OR MH "Military Health" OR MH "Military Training" OR active-duty OR airman OR airmen OR air-force OR armed-forces OR army OR corpsman OR corpsmen OR defense-force* OR defence-force* OR flight-crew* OR infantr* OR marine-corps OR marines OR military OR national-guard OR naval OR navy OR reservist* OR sailor OR sailors OR security-forces OR service-member* OR servicemember* OR service-wom* OR servicewomen OR servicewoman OR special-forces OR special-operations OR soldier OR soldiers OR submarine* OR tricore OR troops OR uniformed-services)

6. #4 AND #5

- Limiters: English Language

All Ovid EBM Reviews (Cochrane), 04/21/2022 – 282 results:

1. (acl-injur* OR ankle-injur* OR arm-injur* OR athletic-injur* OR back-injur* OR back-pain OR bone-injur* OR bone-stress-injur* OR cartilage-injur* OR finger-injur* OR foot-injur* OR fracture-injur* OR hamstring-injur* OR hand-injur* OR hip-injur* OR injury-mitigation OR

injury-prevention OR injury-reduction OR injury-risk* OR joint-injur* OR knee-injur* OR leg-injur* OR ligament-injur* OR limb-injur* OR muscle-injur* OR musculoskeletal-disorder* OR musculoskeletal-injur* OR neck-injur* OR overuse-injur* OR preventable-injur* OR reconditioning-program* OR rotator-cuff-injur* OR shoulder-injur* OR skeletal-injur* OR spinal-cord-injur* OR spinal-injur* OR spine-injur* OR tendon-injur* OR wrist-injur*).ab,ti.

2. (injur* AND (mitigation OR prevention OR preventable OR risk*)).ti.

3. (assessment AND recruit AND motivation AND strength).ab,ti.

4. 1 OR 2 OR 3

5. (active-duty OR airman OR airmen OR air-force OR armed-forces OR army OR corpsman OR corporsman OR defense-force* OR defence-force* OR flight-crew* OR infantr* OR marine-corps OR marines OR military OR national-guard OR naval OR navy OR reservist* OR sailor OR sailors OR security-forces OR service-member* OR servicemember* OR service-wom* OR servicewomen OR servicewoman OR special-forces OR special-operations OR soldier OR soldiers OR submarine* OR tricore OR troops OR uniformed-services).ab,ti.

6. 4 and 5

7. limit 6 to english language

Web of Science, 04/21/2022 – 2,555 results:

1. TS=(acl-injur* OR ankle-injur* OR arm-injur* OR athletic-injur* OR back-injur* OR back-pain OR bone-injur* OR bone-stress-injur* OR cartilage-injur* OR finger-injur* OR foot-injur* OR fracture-injur* OR hamstring-injur* OR hand-injur* OR hip-injur* OR injury-mitigation OR

injury-prevention OR injury-reduction OR injury-risk* OR joint-injur* OR knee-injur* OR leg-injur* OR ligament-injur* OR limb-injur* OR muscle-injur* OR musculoskeletal-disorder* OR musculoskeletal-injur* OR neck-injur* OR overuse-injur* OR preventable-injur* OR reconditioning-program* OR rotator-cuff-injur* OR shoulder-injur* OR skeletal-injur* OR spinal-cord-injur* OR spinal-injur* OR spine-injur* OR tendon-injur* OR wrist-injur*)

2. TI=(injur* AND (mitigation OR prevention OR preventable OR risk*))

3. TS=(assessment AND recruit AND motivation AND strength)

4. 1 OR 2 OR 3

5. TS=(active-duty OR airman OR airmen OR air-force OR armed-forces OR army OR corpsman OR corporsman OR defense-force* OR defence-force* OR flight-crew* OR infantr* OR marine-corps OR marines OR military OR national-guard OR naval OR navy OR reservist* OR sailor OR sailors OR security-forces OR service-member* OR servicemember* OR service-wom* OR servicewomen OR servicewoman OR special-forces OR special-operations OR soldier OR soldiers OR submarine* OR tricare OR troops OR uniformed-services)

6. 4 and 5

7. limit 6 to English language

Defense Technical Information Center (DTIC) Archives [&Theses/Dissertations](#), 04/21/2022 –

106 results

(injury OR musculoskeletal)

Table SA.2. Article Inclusion and Exclusion Criteria

Inclusion Criterion	Exclusion Criterion
<ul style="list-style-type: none"> • Implemented and/or assessed an MSK-IMPP targeting military service members. • Primary* or secondary† MSK-I prevention • Assessed military MSK-IMPP implementation, effectiveness, and/or efficacy. • Primary research studies, reviews, meta-analyses, guidelines or grey literature (including government reports, unpublished and ongoing trials, annual reports, dissertations and conference abstracts). • Human studies • Published in English 	<ul style="list-style-type: none"> • Did not implement or assess an MSK-IMPP (e.g.: Individual MSK-I risk factor association or odds studies, development of MSK-I prediction models). • Did not include military service members, or assessed MSK-IMPP targeting a mixture of military service members and other populations without specifically delineating military service member findings. • Assessed MSK-I caused by traumatic motor vehicle/cycle collisions, slips, trips, falls, or combat-related injuries. • Only assessed blister outcomes • Only assessed concussion/traumatic brain injury outcomes • Assessed only tertiary‡ MSK-I prevention • Cadaveric or in situ model studies • Case reports, editorials, periodicals and letters to the editor • Only involved veterans

MSK = Musculoskeletal; MSK-I = Musculoskeletal Injury; MSK-IMPP = Musculoskeletal Injury Mitigation and Prevention Program

Notes:

* Primary injury prevention was defined as any intervention or measure that was introduced to reduce the risk of sustaining an initial MSK-I.¹⁻³

† Secondary injury prevention was defined as any intervention or measure that was introduced to reduce the risk of sustaining a new or recurrent MSK-I after an initial MSK-I.^{1,2}

‡ Tertiary injury prevention was defined as any intervention or measure that was introduced to reduce or eliminate long-term impairment and disabilities after an initial MSK-I, and to promote adjustment to implications from injury.³

Appendix SA.3. Description of all included studies

First Author	Year	Study Design	Sex	Country	Military Branch	Injury Prevention Program	Barriers to Implementation	Facilitators to Implementation
Aaltonen ⁴	2007	Systematic Review		Finland	Multiple Branches	NA	- Limited Resources	
Alricsson ⁵	2004	Prospective Cohort	Male	Sweden	Air Force	Adding an Exercise Intervention	- Competing Military Priorities	- Involvement/Proximity of Experts - Targeted Design of MSK-IMPP
Amako ⁶	2003	Prospective Cohort	Male	Japan	Army	Adding an Exercise Intervention		- Low Burden on Resources - Strong Stakeholder Engagement
Amoroso ⁷	1998	Prospective Cohort	Male	United States	Army	Equipment	- Equipment-Related Factors	- Involvement/Proximity of Experts
Andersen ⁸	2016	Narrative Review		United States	Multiple Branches	NA		
Äng ⁹	2009	Randomized Controlled Trial	Male	Sweden	Air Force	Adding an Exercise Intervention		- Proximity and Continued Engagement with MSK-IMPP Experts
Aronen ¹⁰	1984	Quasi-Experimental	Male	United States	Navy	Post-Injury Treatment/Rehabilitation		
Arslan ¹¹	2021	Systematic Review		Netherlands	Multiple Branches	NA		
Barnes ¹²	2015	Randomized Controlled Trial	Female	United States	Air Force	Nutrition/Supplementation	-Lack of Stakeholder Engagement	- Low Burden on Resources
Baxter ¹³	2011	Quasi-Experimental	Male	New Zealand	Multiple Branches	Equipment		- Low Burden on Resources

Baxter ¹⁴	2012	Systematic Review			Multiple Branches	NA		
Berg Rice ¹⁵	2002	Mixed Methods	Male	United States	Army	Data-Driven Approach	- Competing Military Priorities - Lack of Stakeholder Engagement - Limited Resources	- Strong Stakeholder Engagement
Berg Rice ¹⁶	2007	Prospective Cohort	Male	United States	Army	Pre-Training MSK-I Symptom Screening and Referral	- Limited Resources	
Bonanno ¹⁷	2018	Randomized Controlled Trial	Male/ Female	Australia	Navy	Equipment		- Low Burden on Resources
Brushoj ¹⁸	2008	Randomized Controlled Trial	Male	Denmark	Army	Adding an Exercise Intervention	- Competing Military Priorities - Lack of Stakeholder Engagement - Limited Resources	- Providing Injury Mitigation Education - Emphasizing End-User Acceptability - Low Burden on Resources - Targeted Design of MSK-IMPP
Bullock ¹⁹	2010	Systematic Review		United States	Multiple Branches	NA	- Equipment-Related Factors - Limited Resources	
Burgess ²⁰	1998	Retrospective Cohort	Male	United Kingdom	Army	Combination: Equipment, Modified Existing Physical Training, Nutrition/Supplements	-Competing military priorities	- Targeted Design of MSK-IMPP -Strong stakeholder engagement

Cameron ²¹	2014	Narrative Review		United States	Multiple Branches	NA		- Involvement/Proximity of Experts
Cancelliere ²²	2019	Systematic Scoping Review		Canada	Multiple Branches	NA		- Providing Injury Mitigation Education - Involvement/Proximity of Experts
Carow ²³	2016	Randomized Controlled Trial	Male	United States	Army	Adding an Exercise Intervention		- Involvement/Proximity of Experts
Chalupa ²⁴	2016	Narrative Review		United States	Army	NA		
Childs ²⁵	2010	Randomized Controlled Trial	Male/ Female	United States	Army	Adding an Exercise Intervention		- Providing Injury Mitigation Education - Targeted Design of MSK-IMPP
Childs ²⁶	2014	Randomized Controlled Trial	Male/ Female	United States	Army	Education		- Low Burden on Resources
Coakwell ²⁷	2004	Narrative Review		United States	Multiple Branches	NA	- Limited Resources	
Constantini ²⁸	2010	Prospective Cohort	Female	Israel	Border Police	Equipment		- Strong Stakeholder Engagement
Coppack ²⁹	2011	Randomized Controlled Trial	Male/ Female	United Kingdom	Army	Adding an Exercise Intervention		- Low Burden on Resources - Strong Stakeholder Engagement
Dawson ³⁰	2015	Quasi-Experimental	Male	Australia	Army	Modifying Existing Physical Training		

Dettori ³¹	1995	Randomized Controlled Trial	Male	United States	Army	Adding an Exercise Intervention	-Competing military priorities	
Dijkma ³²	2019	Randomized Controlled Trial	Male	Netherlands	Air Force	Adding an Exercise Intervention		
Dijkma ³³	2020	Randomized Controlled Trial	Male	Netherlands	Army	Adding an Exercise Intervention	- Competing Military Priorities	- Emphasizing End-User Acceptability
Dijkma ³⁴	2020	Systematic Review		Netherlands	Multiple Branches	NA	-Competing military priorities	
Esterman ³⁵	2005	Randomized Controlled Trial	Male	Australia	Air Force	Equipment	- Equipment-Related Factors	
Finestone ³⁶	1992	Randomized Controlled Trial	Male	Israel	Army	Equipment	- Equipment-Related Factors	
Finestone ³⁷	1999	Quasi-Experimental	Male	Israel	Army	Equipment	- Equipment-Related Factors	
Finestone ³⁸	2004	Randomized Controlled Trial	Male	Israel	Army	Equipment	- Equipment-Related Factors	
Finestone ³⁹	2008	Narrative Review	Male	Israel	Army	NA		
Fisher ⁴⁰	2021	Randomized Controlled Trial	Male/ Female	United States	Air Force	Embedding Medical Personnel		- Providing Injury Mitigation Education - Involvement/Proximity of Experts
Franklyn-Miller ⁴¹	2011	Randomized Controlled Trial	Male/ Female	United Kingdom	Navy	Equipment		
Gardner ⁴²	1988	Randomized Controlled Trial	Male	United States	Marines	Equipment		
George ⁴³	2011	Randomized Controlled Trial	Male/ Female	United States	Army	Combination: Exercise Intervention, Education		- Strong Stakeholder Engagement
Gillespie ⁴⁴	2000	Narrative Review		New Zealand	Multiple Branches	NA	- Equipment-Related Factors - Limited Resources	- Involvement/Proximity of Experts

Goodall ⁴⁵	2013	Randomized Controlled Trial	Male/ Female	Australia	Army	Adding an Exercise Intervention		- Low Burden on Resources
Grier ⁴⁶	2011	Prospective Cohort Study	Male/ Female	United States	Army	Equipment		
Grier ⁴⁷	2018	Cross-sectional	Male	United States	Army	Combination: Embedding Medical Personnel, Modified Existing Physical Training		- Involvement/Proximity of Experts
Gross ⁴⁸	2003	Narrative Review		United States	Army	NA	- Equipment-Related Factors	- Emphasizing End-User Acceptability
Hartig ⁴⁹	1999	Prospective Cohort	Male	United States	Army	Adding an Exercise Intervention	- Competing Military Priorities - Lack of Stakeholder Engagement	- Low Burden on Resources - Strong Stakeholder Engagement - Targeted Design of MSK-IMPP
Heard ⁵⁰	2020	Quasi-Experimental	Male	United States	Army	Adding an Exercise Intervention	-Competing military priorities	
Herbert ⁵¹	2002	Systematic Review and Meta-analysis		Australia	Army	NA		
Herman ⁵²	2012	Systematic Review		United Kingdom	Army	NA		
Herman ⁵³	2012	Systematic Review		Denmark	Army	NA		
Hesarikia ⁵⁴	2014	Randomized Controlled Trial	Male	Iran	Army	Equipment		
House ⁵⁵	2013	Prospective Cohort Study	Male	United Kingdom	Marines	Equipment		- Strong Stakeholder Engagement
Jones ⁵⁶	1999	Narrative Review		United States	Multiple Branches	NA	- Limited Resources	
Jones ⁵⁷	2002	Systematic Review		United States	Multiple Branches	NA	-Equipment-Related Factors	
Jones ⁵⁸	2015	Narrative Review		United States	Army	NA		
Knapik ⁵⁹	2002	Retrospective Cohort	Male/ Female	United States	Army	Education		- Strong Stakeholder Engagement

								- Targeted Design of MSK-IMPP
Knapik ⁶⁰	2003	Retrospective Cohort	Male/ Female	United States	Army	Modifying Existing Physical Training		- Targeted Design of MSK-IMPP
Knapik ⁶¹	2004	Quasi-Experimental	Male/ Female	United States	Army	Combination: Modified Existing Physical Training, Education	- Lack of Stakeholder Engagement	- Involvement/Proximity of Experts
Knapik ⁶²	2005	Quasi-Experimental	Male/ Female	United States	Army	Modifying Existing Physical Training	- Limited Resources	- Targeted Design of MSK-IMPP
Knapik ⁶³	2006	Prospective Cohort	Male/ Female	United States	Army	Adding an Exercise Intervention		- Strong Stakeholder Engagement
Knapik ⁶⁴	2008	Cross-sectional	Male	United States	Army	Equipment	- Equipment-Related Factors	
Knapik ⁶⁵	2009	Randomized Controlled Trial	Male/ Female	United States	Army	Equipment	- Equipment-Related Factors - Limited Resources	
Knapik ⁶⁶	2009	Narrative Review		United States	Army	NA	- Limited Resources	- Providing Injury Mitigation Education
Knapik ⁶⁷	2010	Randomized Controlled Trial	Male/ Female	United States	Air Force	Equipment		- Involvement/Proximity of Experts
Knapik ⁶⁸	2010	Systematic Review		United States	Multiple Branches	NA		
Knapik ⁶⁹	2010	Randomized Controlled Trial	Male	United States	Marines	Equipment		
Knapik ⁷⁰	2014	Systematic Review and Meta-analysis		United States	Multiple Branches	NA		
Knapik ⁷¹	2019	Narrative Review		United States	Army	NA	- Equipment-Related Factors - Limited Resources	- Strong Stakeholder Engagement
Knapik ⁷²	2020	Narrative Review		United States	Army	NA		
Kozinc ⁷³	2017	Systematic Review and Meta-analysis			Multiple Branches	NA		

Lappe ⁷⁴	2008	Randomized Controlled Trial	Female	United States	Navy	Nutrition/Supplement	- Equipment-Related Factors - Lack of Stakeholder Engagement	- Involvement/Proximity of Experts - Low Burden
Larsen ⁷⁵	2002	Randomized Controlled Trial	Male	Denmark	Army	Adding an Exercise Intervention	-Lack of Stakeholder Engagement	
Larsen ⁷⁶	2002	Randomized Controlled Trial	Male/ Female	Denmark	Army	Equipment	- Limited Resources	
Larsson ⁷⁷	2012	Randomized Controlled Trial	Male	Sweden	Army	Combination: Screening and Referral, Modified Existing Physical Training		- Involvement/Proximity of Experts
Lawley ⁷⁸	2020	Narrative Review		United States	Multiple Branches	NA		
Lee ⁷⁹	1997	Randomized Controlled Trial	Male	Singapore	Army	Adding an Exercise Intervention		
Luippold ⁸⁰	2011	Prospective Cohort Study	Male	United States	Army	Equipment		
Mattila ⁸¹	2011	Randomized Controlled Trial	Male	Finland	Army	Equipment		
Mattila ⁸²	2011	Randomized Controlled Trial	Male	Finland	Army	Equipment		
McDevitt ⁸³	2004	Randomized Controlled Trial	Male	United States	Multiple Branches	Equipment		- Emphasizing End-User Acceptability
McGinnis ⁸⁴	2019	Randomized Controlled Trial	Male/ Female	United States	Army	Nutrition/Supplement		
Milgrom ⁸⁵	1985	Quasi-Experimental	Male	Israel	Army	Equipment		
Milgrom ⁸⁶	2004	Randomized Controlled Trial	Male	Israel	Army	Pharmacological	- Competing Military Priorities - Equipment-Related Factors	
Milgrom ⁸⁷	2005	Randomized Controlled Trial	Male	Israel	Army	Equipment	- Equipment-Related Factors	- Emphasizing End-User Acceptability
Milgrom ⁸⁸	2017	Prospective Cohort	Male	Israel	Army	Modifying Existing Physical Training	-Competing Military Priorities	
Moer ⁸⁹	2009	Narrative Review		Netherlands	Multiple Branches	NA		

Molloy ⁹⁰	2020	Narrative Review		United States	Army	NA		
Mundermann ⁹¹	2001	Randomized Controlled Trial	Male/ Female	Canada	Multiple Branches	Equipment		- Emphasizing End-User Acceptability
Murray ⁹²	2015	Randomized Controlled Trial	Male/ Female	Denmark	Air Force	Adding an Exercise Intervention	- Lack of Stakeholder Engagement	
Newman ⁹³	2017	Systematic Review and Meta-analysis		United States	Multiple Branches	NA		
O'Connor ⁹⁴	2020	Narrative Review		United States	Air Force	NA		
Olmsted ⁹⁵	2004	Narrative Review		United States	Multiple Branches	NA	- Limited Resources	
Paradise ⁹⁶	2021	Systematic Review		United States	Multiple Branches	NA		
Parkkari ⁹⁷	2011	Randomized Controlled Trial	Male	Finland	Multiple Branches	Combination: Exercise Intervention, Education		- Strong Stakeholder Engagement - Targeted Design of MSK-IMPP
Pester ⁹⁸	1992	Prospective Cohort	Male	United States	Army	Modifying Existing Physical Training		
Pihlajamäki ⁹⁹	2006	Retrospective Cohort	Male	Finland	Multiple Branches	Education		- Involvement/Proximity of Experts
Pope ¹⁰⁰	1998	Quasi-Experimental	Male	Australia	Army	Adding an Exercise Intervention		- Involvement/Proximity of Experts - Strong Stakeholder Engagement
Pope ¹⁰¹	1999	Retrospective Cohort	Female	Australia	Army	Modifying Existing Physical Training		- Emphasizing End-User Acceptability
Pope ¹⁰²	2000	Randomized Controlled Trial	Male	Australia	Army	Adding an Exercise Intervention		- Involvement/Proximity of Experts
Pope ¹⁰³	2002	Retrospective Cohort	Male/ Female	Australia	Army	Equipment		
Popovich ¹⁰⁴	2000	Quasi-Experimental	Male	United States	Army	Modifying Existing Physical Training		

Robitaille ¹⁰⁵	2021	Feasibility Implementation Study	Male/ Female	Canada	Army	Modifying Existing Physical Training	- Competing Military Priorities	- Strong Stakeholder Engagement
Rome ¹⁰⁶	2005	Narrative Review		New Zealand , United Kingdom	Army	NA	- Equipment-Related Factors - Limited Resources	- Strong Stakeholder Engagement
Roos ¹⁰⁷	2015	Prospective Cohort	Male	Switzerland	Army	Modifying Existing Physical Training		- Proximity and Continued Engagement with MSK-IMPP Experts
Ross ¹⁰⁸	1993	Narrative Review		United States	Army	NA		
Ross ¹⁰⁹	2002	Retrospective Cohort	Male	United Kingdom	Marines	Modifying Existing Physical Training	- Competing Military Priorities	
Rudzki ¹¹⁰	1997	Randomized Controlled Trial	Male	Australia	Army	Modifying Existing Physical Training	- Competing Military Priorities - Lack of Stakeholder Engagement	- Strong Stakeholder Engagement
Rudzki ¹¹¹	1999	Quasi-Experimental	Male	Australia	Army	Modifying Existing Physical Training	-Competing Military Priorities	
Schmidt ¹¹²	2005	Retrospective Cohort	Male	United States	Army	Equipment		- Targeted Design of MSK-IMPP
Schumacher ¹¹³	2000	Retrospective Cohort	Male	United States	Army	Equipment	- Equipment-Related Factors	
Schwellnus ¹¹⁴	1990	Randomized Controlled Trial	Male	South Africa	Army	Equipment		
Scott ¹¹⁵	2012	Prospective Cohort Study	Male/ Female	United States	Army	Education	-Limited Resources	- Providing Injury Mitigation Education - Strong Stakeholder Engagement
Sell ¹¹⁶	2016	Prospective Cohort	Male	United States	Army	Modifying Existing Physical Training		- Targeted Design of MSK-IMPP
Shaffer ¹¹⁷	2006	Narrative Review		United States	Multiple Branches	NA		
Sharma ¹¹⁸	2014	Randomized Controlled Trial	Male	United Kingdom	Army	Adding an Exercise Intervention	-Limited Resources	

Sheffield ¹¹⁹	1962	Quasi-Experimental	Male	United States	Multiple Branches	Adding an Exercise Intervention		
Sherrard ¹²⁰	2004	Narrative Review		Australia	Multiple Branches	NA		- Strong Stakeholder Engagement
Shumway ¹²¹	2016	Prospective Cohort	Male	United States	Air Force	Adding an Exercise Intervention		- Strong Stakeholder Engagement
Simkin ¹²²	1989	Prospective Cohort	Male	Israel	Army	Equipment		
Sitler ¹²³	1990	Randomized Controlled Trial	Male	United States	Army	Equipment		
Sivakumar ¹²⁴	2019	Systematic Review		Canada	Multiple Branches	NA		
Slater ¹²⁵	2009	Randomized Controlled Trial	Male	United States	Navy	Education		- Low Burden on Resources
Smith ¹²⁶	1985	Randomized Controlled Trial	Male	United States	Coast Guard	Equipment		
Steinberg ¹²⁷	2021	Randomized Controlled Trial	Male	Israel	Army	Adding an Exercise Intervention		- Strong Stakeholder Engagement
Suni ¹²⁸	2013	Randomized Controlled Trial	Male	Finland	Army	Adding an Exercise Intervention		- Providing Injury Mitigation Education - Targeted Design of MSK-IMPP
Thacker ¹²⁹	2002	Systematic Review		United States, South Africa	Multiple Branches	NA		- Emphasizing End-User Acceptability - Involvement/Proximity of Experts

VanTiggelen ¹³⁰	2004	Randomized Controlled Trial	Male/ Female	Belgium	Multiple Branches	Equipment		
Withnall ¹³¹	2006	Randomized Controlled Trial	Male/ Female	United Kingdom	Air Force	Equipment	- Limited Resources	
Yeung ¹³²	2001	Systematic Review		United States	Multiple Branches	NA		- Strong Stakeholder Engagement
Yeung ¹³³	2001	Narrative Review		Hong Kong, China	Multiple Branches	NA		
Zeng ¹³⁴	2021	Randomized Controlled Trial	Male	China	Army	Adding an Exercise Intervention	-Competing Military Priorities	
Ziemke ¹³⁵	2001	Narrative Review		United States	Navy	NA		- Involvement/Proximity of Experts -Strong Stakeholder Engagement
Zimmermann ¹³⁶	2017	Narrative Review		Netherlands	Multiple Branches	NA	- Limited Resources	

***If no barriers or facilitators are reported in the table, no barriers or facilitators were reported in the article.**

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