



- STATEMENT OF WORK -
Task Authorization (TA) - 64

1. NUMBER – TITLE OF TASK AUTHORIZATION

TA 64 – Evaluation of Strength and Conditioning Program Implementation with the Goal of Reducing Musculoskeletal Injuries

2. VALIDATION OF SCOPE OF CONTRACT

2.1 The following task(s), as written in the SOW of the main contract (W7714-145967/001/SV) apply to this Task Authorization (TA):

- a) **Experimental and Clinical Studies** - Design and conduct of experiments involving both human and animal studies.
- b) **Data Analysis** - Perform state of the art analysis of data from experimental studies, clinical trials, field studies or trials, and existing databases.
- c) **Educational Programs** - Develop and deliver educational programs for stakeholders involved in the delivery of health care to military members, Veterans, and their families.
- d) **Presentations to Government and Health Care System Stakeholders** - Prepare and deliver presentations to Government and Healthcare system stakeholders.
- e) **Advice** - Provide recommendations on peer review research proposals, publications, experimental studies, surveys and scientific evidence.
- f) **Expert support** - Provide personnel support to military and veteran health research projects through education, dissemination of research findings or knowledge translation.

3. ACRONYMS

ACP	Aircrew Conditioning Program
CAF	Canadian Armed Forces
CFEME	Canadian Forces Environmental Medicine Establishment
DND	Department of National Defence
DRDC	Defence Research and Development Canada
GRIT	Generating Resilience to Injury through Training
MSK	Musculoskeletal Injury
SA	Scientific Authority
TA	Technical Authority

4. REQUIREMENT

4.1 The Canadian Armed Forces (CAF) are currently implementing two separate strength and conditioning programs aimed at reducing the incidence of musculoskeletal injuries (MSKs) in training and operations. The current programs are called the GRIT (Generating Resilience to Injury through Training; Army) and ACP (Aircrew Conditioning Program; Air Force). Each program exists to target a specific population at a specific point during their training or during their operations cycle.

4.2 The goal exists to continue to improve the delivery of each program, and to expand each program beyond their current target populations. In order to accomplish this goal, the requirement exists to better understand the current implementation of each program, and to provide recommendations to sustain, spread, and expand existing programs beyond their current target populations.

5. BACKGROUND

5.1 MSK is the leading reason why CAF personnel are unable to deploy on operations (Rowe, 2011). Since MSK is also the most common reason listed for medical discharges, it is clear that MSK reduces both training and operational effectiveness, and increases the demands placed on associated medical care providers. Published NATO allied reports show that 20 – 59% of recruits are affected by MSK with about 8% of recruits being discharged due to MSK (NATO-HFM-RTG-283, 2017).

5.2 Both in athletics and in the general population, when correctly implemented, strength and conditioning programs are known to improve performance and reduce the risk of injury (McGill, 2010). Correct implementation in a military context remains a challenge at times; and more research is needed to better understand how to correctly implement a strength and conditioning program to reduce injuries.

5.3 As stated, the CAF is currently in the process of implementing two targeted strength and conditioning programs: GRIT and ACP. The GRIT has been implemented for the past two years, and results to this point have shown that it has been successful at reducing injuries. The ACP has just begun its implementation in the CAF; however, a similar program which the ACP is based upon that was implanted by the Royal Air Force in the United Kingdom has shown promising implementation and results (Sungard et al., 2018)

5.4 Although both of the programs described have shown early limited success, research is still lacking in the area of process evaluation. This lack of research limits the CAF's ability to find opportunities to make the delivery of each



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program more efficient and effective. This lack of research is also a potential reason for previous attempts at such programs to sustain success and ultimately spread beyond their target populations.

6. OBJECTIVES

6.1 Global Objective: To use strength and conditioning training to reduce musculoskeletal injuries and their impact on CAF operations and its members, while maintaining operational effectiveness and readiness.

6.2 Specific Objectives:

- a. To describe, map and assess/evaluate the implementation process of the current programs,
- b. To identify barriers and facilitators to maintain and sustain existing programs, and
- c. To identify barriers and facilitators to the spread or expansion of existing programs beyond the current target populations.

7. SCOPE

7.1 In order for this work to describe and assess the implementation of the current programs, and to identify the barriers and facilitators for expansion, the scope of this work will include Canadian Armed Forces personnel currently involved in the implementation of the GRIT and ACP, and CAF members and leadership that will be involved in expansion of both programs and the creation of newly formed strength and conditioning programs. This should include (but not be limited to) members from the Canadian Forces Health Services Group, Canadian Forces Morale and Well-ness Services, and other CAF and DND organizations (ex. Canadian Forces Environmental Medicine Establishment -CFEME, DRDC).

8. APPLICABLE DOCUMENTS & REFERENCES

1. Rowe P. (2011). The Impact of Musculoskeletal Conditions on the Canadian Forces. *Military and Veterans Health Research Forum 2011*.
2. NATO-HFM-RTG-283 Reducing Musculoskeletal Injuries. (2017). Technical Activity Proposal (TAP).
3. McGill, S. (2010). Core training: Evidence translating to better performance and injury prevention. *Strength & Conditioning Journal*, 32(3), 33-46.
4. Slungaard, E., Green, N. D., Newham, D. J., & Harridge, S. D. (2018). Content validity of level two of the Royal air Force aircrew conditioning programme. *Aerospace medicine and human performance*, 89(10), 896-904.

9. TASKS TO BE PERFORMED

9.1 Engage all relevant CAF and DND leadership and stakeholders involved in the Personnel Portfolio Project on Reducing MSKs in the CAF to assess and evaluate the goals and objectives of the current targeted strength and conditioning programs (GRIT and ACP). The Sub Contractor will be provided with contact information for POCs at each CAF/DND office that is involved.

9.2 Engage with relevant staff and CAF members implementing the current targeted strength and conditioning programs to assess and evaluate the implementation process.

9.3 Use the results of tasks 9.1 and 9.2 to summarize the goals, objectives, and implementation processes for the current targeted strength and conditioning programs.

9.4 Perform an analysis to determine the alignment between the initial goals and objectives of the targeted strength and conditioning programs with the current implementation process.

9.5 Interpret analysis performed in task 9.4 to provide recommendations to sustain, spread or expand existing programs beyond current target populations.

10. DELIVERABLES (DESCRIPTION AND SCHEDULES)

All deliverables must be submitted and completed by 16 March 2022. The Sub Contractor must prepare and submit the following deliverables:

Deliverable Number	Task reference	Description of Deliverables	Quantity and Format	Delivery Date
10.1	9.1 – 9.5	Regular monthly progress meetings to update SA on progress of work.	30 minute teleconference	4 weeks, 8 weeks, and 12 weeks after issuance of Task Authorization.



ANNEX A

17 Sep 2021

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10.2	9.1 – 9.5	Mid-project update to all relevant stakeholders from DND and CAF.	2 hour teleconference	10 weeks after issuance of Task Authorization.
10.3	9.1 – 9.5	Draft final report, SA will provide feedback within 3 business days.	Electronic, MS Office document	02 March 2022
10.4	9.1 – 9.5	Final presentation to all relevant stakeholders from DND and CAF	2 hour teleconference	10 March 2022
10.5	9.1 – 9.5	Final report incorporating comments and feedback from the SA on draft report.	Electronic, MS Office document	16 March 2022

11. MANDATORY SELECTION CRITERIA

11.1 The successful team will collectively have the following minimum qualifications:

- a) A PhD qualified researcher with experience in the field of strength and conditioning and injury prevention;
- b) Experience performing analyses comparing the alignment of goals and implementation for injury prevention programs;
- c) Familiarity in conducting literature searches, and reviewing and assessing the quality of program evaluation literature;
- d) Knowledge of the physical demands required of military, police, firefighting, or emergency responders;
- e) Experience or knowledge of the prevention of acute and repetitive strain injuries.

12. LANGUAGE OF WORK

Documentation and deliverables must be submitted in the English language.

13. LOCATION OF WORK

The work will be performed at the Sub Contractor's site.

14. TRAVEL

The Sub Contractor may be required to travel to present research findings at scientific meetings. Sub Contractor travel must have the prior written authorization of the Scientific Authority and the Technical Authority, and must be undertaken in accordance with the National Joint Council Travel Directive and with the other provisions of the directive referring to "travellers", rather than those referring to "employees".

15. MEETINGS

- 15.1 Monthly progress meeting – November 2021 (half-hour teleconference)
- 15.2 Monthly progress meeting – December 20221 (half-hour teleconference)
- 15.3 Mid-project update – January 2022 (two-hour teleconference)
- 15.4 Monthly progress meeting – December 20221 (half-hour teleconference)
- 15.5 Final presentation – March 2022 (two-hour teleconference)

16. GOVERNMENT SUPPLIED MATERIAL (GSM)

None

17. GOVERNMENT FURNISHED EQUIPMENT (GFE)

None

18. SPECIAL CONSIDERATIONS OR CONSTRAINTS

None



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19. SECURITY

The Sub Contractor will not require access to PROTECTED and/or CLASSIFIED information or asset, nor to restricted access areas.

X Not applicable

20. INTELLECTUAL PROPERTY (IP) OWNERSHIP

The Sub Sub Contractor will own any Foreground IP created by virtue of the main contract (W7714-145967/001/SV).

21. CONTROLLED GOODS

X Not applicable

22. BASIS OF PAYMENT REQUESTED

X Limitation of expenditure

23. METHOD OF PAYMENT REQUESTED

X Progress payments

24. ESTIMATED BUDGET

The Sub Contractor will be paid by CIMVHR as per the terms of Contract # W7714-145967 between Defence Research and Development Canada and CIMVHR. The amount of funding available is allocated by fiscal year (April 1 - March 31st) and is approximately \$63,000.00 for FY 2021/22. Full budget details TBD upon award.

A draft budget must be submitted with the proposal along with a budget justification. A detailed budget will be developed post award in consultation with CIMVHR. Interested parties should request budget documents and information on creating their budget from Jocelyne Halladay or Heather MacArthur.