

AUSTRALIAN ARMY

**LAND WARFARE PROCEDURES -
GENERAL**

LWP-G 7-7-4

COMBAT FITNESS HANDBOOK

AMENDMENT LIST NUMBER 1

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22 July 2009

Issued by command of Chief
of Army



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Colonel
Commandant
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LWP-G 7-7-4, Combat Fitness Handbook, 2005 AL1



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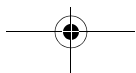
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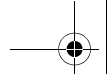
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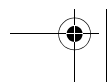
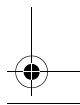
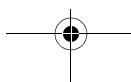
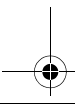
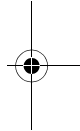
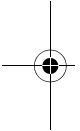
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AMENDMENT LIST NUMBER 1 TO LWP-G 7-7-4, COMBAT FITNESS HANDBOOK, 2005

1. On completion of this amendment, initial and date the amendment certificate on page v to confirm that the amendment has been made.
2. All superseded Signature and Amendment Certificate pages should be retained at the rear of the publication for audit purposes.
3. Additional copies of the amendment pages are available on the Army Doctrine Electronic Library website located at: **<http://adel.defence.gov.au>**.
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5. Page amendments are to be made as indicated:



<i>Existing Pages Remove/Delete</i>	<i>Insert New Pages</i>	<i>Page Amended</i>	<i>Amendment Description</i>
Page iii to vi	Page iii to vi	Page iii and v	New Signature page Amendment Certificate updated
Page xi to xiv	Page xi to xiv	Page xii	Associated Publications updated
Page xv to xvi Page xxv to xxvi	Page xv to xvi Page xxv to xxvi	Page xvi Page xxv	Table of Contents updated
Page xlv to xlviii	Page xlv to xlvii	Page xlv	New Abbreviation added
Page 1–19 to 1–22	Page 1–19 to 1–24	Page 1–20 to 1–22	New paragraphs 1.40 to 1.44 Paragraph 1.43i deleted Paragraph numbering updated
Page 4–3 and 4–4	Page 4–3 and 4–4	Page 4–3	Paragraph 4.9a updated
Chapter 16	Chapter 16	Page 16–1 to 16–4	Tables 16–1 and 16–2 updated Paragraph 16.14 deleted Paragraphs 16.1, 16.5 to 16.7, 16.9, 16.11 and 16.13 updated

AMENDMENT CERTIFICATE

Doctrine Wing, Army Knowledge Management Group, Land Warfare Development Centre is responsible for the management and sponsorship of this publication. The doctrine contained herein was approved on 15 June 2005.

1. Proposals for amendments or additions to the text of this publication should be made through normal channels to the sponsor. To facilitate this, there are amendment proposal forms at the back of this publication.

2. It is certified that the amendments promulgated in the undermentioned amendment lists have been made in this publication.

Amendment List		Produced By	Publication Amended By	Date Amended
Number	Date of Endorsement			
1.	22 Jul 2009	LWDC		
2.				
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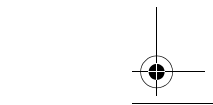
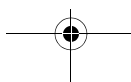
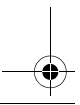
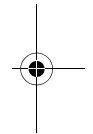
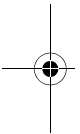
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PREFACE

Aim

1. The aim of this publication is to provide both a technical and non-technical 'hands on' reference book in specific combat fitness training for use by commanding officers, officers commanding, army physical training instructors and combat fitness leaders for planning, preparing and conducting unit, sub-unit and individual fitness training.

Level

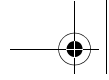
2. This publication has been compiled to provide both a non-technical and technical reference that will form the basis of planning, preparing and conducting specified combat fitness training undertaken by soldiers and officers from all corps. The publication is designed and intended for use by personnel who are undertaking or have undertaken a physical training Instructors and/or combat fitness leader course.

Scope

3. The compilation of this publication is designed to provide commanding officers, officers commanding, physical training instructors and combat fitness leaders with a readily available reference of specific information regarding physical training. This information will assist in the planning, preparation and conduct of combat fitness training, specific to and which complements individual unit training and/or operational requirements. Many of the exercises and coaching principles detailed in this publication are empirical, due to the combat specific nature of the training. Those that have been drawn from or aligned with commercially available publications have been because they are universally accepted as best practice. Where changes to these exercises and/or principles occur, it is envisaged that this publication will be amended at the first available opportunity.

Associated Publications

4. This publication should be read in conjunction with other publications and documents, in particular:
- a. *Australian Defence Force Physical Training School Circuit Training Precis*, 2003;
 - b. *Australian Defence Force Physical Training School Resistance Training Precis*, 2003;
 - c. *Australian Defence Force Health Status Report*, 2000;
 - d. *Defence Health Policy Directive No 235, Management of Pregnant Members of the Australian Defence Force*, 2002;
 - e. *Defence Health Services*,
<<http://defweb2.cbr.defence.gov.au/dpedhs>>;
 - f. *Defence Instructions (Army) Operations 80-1, Army Individual Readiness Notice*, 2005;
 - g. *Defence Instructions (Army) Personnel 148-2, Army Physical Conditioning Assessment System*, 2007;
 - h. *Defence Instructions (General) Personnel 14-2, Australian Defence Force Policy Sport*, 2002;
 - i. *Defence Instructions (General) Personnel 16-11, Australian Defence Force Policy on Physical Fitness*, 1997;
 - j. *Defence Safety Management Agency, Canberra*,
<<http://dsma.dcb.defence.gov.au>>, viewed October, 2004;
 - k. *Defence Safety Manual*, 2002; and



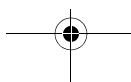
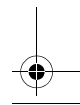
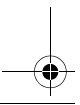
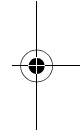
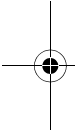
- I. *Health Directive Number 235, Management of Pregnant Members of the Australian Defence Force, 2002.*

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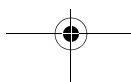
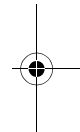
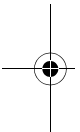
Gender

6. This publication has been prepared with gender-neutral language.





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ABBREVIATIONS

1. The following abbreviations are used in this publication. Abbreviations which appear in *Australian Defence Force Publication 04.1.3, Abbreviations and Military Symbols, 1995*, are expanded upon in normal type. Abbreviations shown in italics have not been accepted for joint Service use.

ABC	<i>agility, balance and coordination</i>
ADF	Australian Defence Force
BFA	basic fitness assessment
CFL	<i>combat fitness leader</i>
CNS	<i>central nervous system</i>
DIPP	<i>defence injury prevention program</i>
FITT	<i>frequency, intensity, time and type</i>
FT	<i>fast twitch</i>
HR	<i>heart rate</i>
HRR	<i>heart rate reserve</i>
kg	kilogram
LSD	<i>long slow distance</i>
MTG	<i>minor team games</i>
OHS	<i>occupational health and safety</i>
PT	physical training
PTI	<i>physical training instructor</i>
RM	<i>repetition movement</i>
ROM	<i>range of movement</i>
RTW	<i>return to work</i>
SME	<i>subject matter expert</i>
ST	<i>slow twitch</i>
UDC	<i>unit defence injury prevention program coordinator</i>
VO₂ max	<i>volume of oxygen</i>

2. The following abbreviations appear in tables and figures within the publication.

°	<i>degrees</i>
%	<i>per cent</i>

ADF	Australian Defence Force
approx	<i>approximately</i>
ATP	<i>Adenosine Triphosphate</i>
bpm	<i>beats per minute</i>
CFA	<i>combat fitness assessment</i>
CP	<i>Creatine Phosphate</i>
DEP	<i>demonstrate, explain, practise</i>
hr	<i>hour</i>
IPA	<i>injury prevention advisers</i>
kcal	<i>kilocalorie</i>
kg	<i>kilogram</i>
km	<i>kilometre</i>
km/h	<i>Kilometre per hour</i>
L	<i>litre</i>
m3	<i>cubic metres</i>
m	<i>metre</i>
min	<i>minutes</i>
no	<i>number</i>
PMHR	<i>predicted maximum heart rate</i>
RDJ	<i>run, dodge and jump</i>
RHR	<i>resting heart rate</i>
RI	<i>recruit instructor</i>
ROM	<i>range of movement</i>
sec	<i>seconds</i>
THR	<i>training heart rate</i>
trg	<i>training</i>

- c. **Battle Physical Training Lessons.** The battle focused approach to combat fitness training requires a prerequisite amount of physical fitness. Battle PT lessons enhance the physiological systems and coordination skills that directly support demanding work performance tasks. The lessons are normally conducted in modified and varying levels of combat dress to suit the type of lesson, and are conducted during the task specific and maintenance phase.

1.39 Individual Training. The alternate types of programs conducted in the Army are individual programs. Individual programs may be the only form of training or an adjunct to the unit program for individuals; however, they are designed exclusively for the soldier and are defined as follows:

- a. **Personal Development.** Soldiers may elect to undertake a personal training program to seek improvement in physical performance for certain activities or for self-esteem. Senior ranks without the time, soldiers serving in small detachments or, in particular, reserve soldiers may not have the opportunity to participate in group sessions; therefore, a personal training program is essential for them to maintain their capability. It is highly recommended that all soldiers undertake personal training programs to receive the indirect benefits of a regular training program. A personal program significantly improves a soldier's performance in a selected component of fitness, and the benefits may compensate for any shortfall not obtained in group sessions. Soldiers are advised to consult PTIs or CFLs on the correct exercise prescription to suit their individual requirements. The exercise prescription permits the individual to train alone; however, enlisting the aid of a training partner is recommended. Training partners provide physical assistance, motivation and commitment to maintain the regularity of a training program.

- b. *Remedial.* Soldiers not up to standard or incapable of performing their mission specific duties are required to undertake a corrective training program in accordance with current Army policy. Following counselling, the identified soldier should consult medical staff for a diagnosis to establish a solution for the problem. It is vital they are not ridiculed or vilified by their peers or leaders for their deficiency. The aim is to address the problem to enable the soldier to develop a positive self-help attitude towards PT. The remedial program should be closely monitored to guarantee the soldier improves progressively without injury. It should also be educational to ensure the soldier understands and appreciates their improvements. Failing to educate the soldier may lead to reversibility once the program has concluded.
- c. *Rehabilitation.* A major component of the recovery process from surgery or injury for soldiers involves undergoing individual rehabilitation programs. Medical officers, physiotherapists and PTIs strictly supervise rehabilitation programs for soldiers. Commanders should note that the conclusion of rehabilitation programs does not necessarily mean the soldier is fit for full duty. A remedial program may be required to fine tune the member's fitness back to the pre-trauma level. A soldier rushed back to full unit training may sustain a recurrence of the original injury.

SECTION 1-3. EMPLOYMENT OF PHYSICAL TRAINING INSTRUCTORS AND COMBAT FITNESS LEADERS WITHIN UNITS AND FORMATIONS

Physical Training Instructors

- 1.40 Primary Function.** PTIs are primarily involved in the physical conditioning of personnel, advising commanders on injury prevention and assisting with the rehabilitation of injured

personnel. This function is performed equally in barracks and while on operations.

- 1.41 Physical Conditioning.** PTIs are qualified to design, conduct, evaluate and review the unit's physical training programs to develop physically conditioned personnel to support commanders in executing their operational tasks. PTIs are best placed to provide unit PT risk management programs and appropriate advice for progressive sessions applicable to the unit's roles and level of fitness. PTIs are responsible for the safe and effective conduct of military self-defence training and the conduct of military self-defence exponent and instructor courses. They are responsible for the ongoing development of soldier's skills in this area, and for ensuring that training is conducted in accordance with doctrine and the skills taught on the military self-defence course.
- 1.42 Injury Prevention.** In support of the physical conditioning task, PTIs are responsible for the provision of advice to commanders and personnel conducting PT sessions to ensure compliance with safety standards to prevent injury. While injury prevention analysis and advice is predominantly by PTIs in relation to physical conditioning programs, commanders may call upon PTI advice regarding injury prevention in the workplace.
- 1.43 Rehabilitation.** PTIs, along with physiotherapists and health care workers, provide rehabilitation services to injured personnel. On operations PTIs provide a critical rehabilitation role in support of medical staff to ensure that correct methods of rehabilitation treatment and training are provided to the member maximising the opportunity for the individual to remain within the AO, thus preserving operational manpower. They are responsible for the tailored exercise prescription for injured members and provision of timely and accurate feedback to the Medical Officer.
- 1.44 Secondary Function.** A secondary, yet important, function provided by PTIs is their contribution to unit morale while on operations and in barracks through the organisation of sporting and social activities with Australian and coalition forces.

Combat Fitness Leaders

1.45 Role. The CFLs are soldiers authorised to conduct combat fitness training. When not conducting PT, they perform their routine mission specific duties. Their skill set places them in the primary position to contribute to the development of their units' PT programs. They are key contributors to their units' injury prevention strategies.

1.46 Tasks. The core tasks of a CFL are as follows:

- a. under PTI supervision, determine the fitness goals and current fitness of the unit;
- b. under PTI supervision, develop a fitness program for the sub-unit;
- c. conduct combat fitness training sessions;
- d. conduct Army fitness minor team games;
- e. conduct competitive minor team games;
- f. operate in accordance with the legal and ethical responsibilities of an instructor;
- g. promote health and fitness in the Army; and
- h. employ injury prevention in combat fitness training.

Risk Management of Physical Training

1.47 Military operations and training are hazardous and will rarely be free of risk. Despite this, Army has a moral and legal obligation to minimise risks and to train within a level of risk that meets government and community expectations.

1.48 The focus of risk management within the Army is force preservation. The objective of force preservation of combat power is achieved through identification, assessment, control and monitoring of risk within all aspects of Army activity, including the operational and training environment.

1.49 Commanders at all levels should strive to achieve the best possible levels of fitness for their soldiers but, in doing so, they should consider the risks involved with this training. They

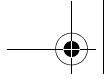
should ensure that all risks are reduced to a manageable level in order to reduce the likelihood of injury, thereby preserving the force. Some form of risk will be present in all aspects of PT; however, the risk of injury can be dramatically reduced with the employment of qualified, competent personnel to plan and conduct PT. PTIs and CFLs should be used to plan and conduct PT wherever possible.

- 1.50** Further information on PT safety aspects can be found in the *Defence Safety Manual (SAFETYMAN)*, 2002 or on the Defence Safety Management Agency website located at <http://dsma.dcb.defence.gov.au>.¹

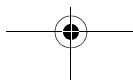
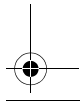
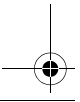
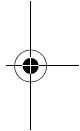
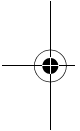
Conclusion

- 1.51** Physical fitness is equally as important as other elementary soldier skills. History has proven a high standard of physical fitness is a force multiplier; therefore, commanders are strongly encouraged to foster a commitment to regular participation in structured physical training programs.

1. Department of Defence 2004, Defence Safety Management Agency, Canberra, viewed October 22, 2004, <<http://dsma.dcb.defence.gov.au>>



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- 4.7** For example, the objective of a transport company's physical training program may be to develop a level of strength, aerobic capacity and skill that permits the safe operation of transport vehicles for periods extending up to 12 hours, including the loading and unloading of cargo by hand. The performance standard would be that each individual will have the upper body strength to lift 60 per cent of their body weight overhead, 75 per cent of their body weight to waist height twice in 30 seconds, and the aerobic fitness to complete a 2.4 kilometre (km) run in 11 minutes. Further, personnel should demonstrate the skill sets of good lifting form, coordination and balance in order to complete the task without injury.
- 4.8** Each individual physical training session within the program should have a training objective tied to one or two of the major components of physical fitness. For every training session, soldiers should understand how the activities selected would help improve specific components of fitness and skill. If an activity is not effective in improving the component to be trained it should be eliminated or the session's training objective changed.

SECTION 4-3. ANALYSE UNIT AND INDIVIDUAL FITNESS – STEP 2

- 4.9** Before training can be effectively planned, the current level of unit and individual fitness and skill sets must be determined to establish the correct training start point. The analysis can be accomplished through key personnel conducting the following tasks:
- a. *General Fitness Tests.* Authorised tests such as the BFA, multi stage fitness test or a combination of selected test components will identify the areas where training is needed and those where performance is already satisfactory. However, the test should be balanced and evaluate all components of physical fitness. The key point in any evaluation is to be sure the information it provides is accurate. Soldiers must give a maximum

effort on fitness tests and the entire unit must participate, otherwise the basis on which training is planned may be invalid. Following a lengthy break in training, soldiers may require a week of light conditioning before the initial test to avoid unnecessary post-exercise trauma as a result of maximal effort. The test results will also identify personnel who require additional training to bring them up to the minimum or start standard.

- b. *Skill Assessment.* The skill sets required of a unit are many and varied; however, the basic areas of jumping, landing, cutting, turning and stopping should be assessed. These areas have been identified as common precursors to injury. Other skill sets of specific units are lifting, carrying, climbing, scaling and putting down. Basic skills can be assessed through observation of a simple indoor obstacle course that contains the parameters described above. Quite often fitness training commences in earnest before the skill sets required are in place.
- c. *Evaluation and Observation.* Mission related tasks will also provide information about unit and individual fitness. It may be appropriate to conduct mission specific events, such as a road march for a set distance with a prescribed load in a standard time, to obtain a complete picture of unit physical conditioning as it relates to military task performance.

4.10 Review of Training and Medical Data. An analysis of previous training programs and a review of medical statistical data may also assist in planning the unit's program. Historical patterns of failures and injuries may be identified and intervention strategies employed in the unit program to prevent further recurrences.

CHAPTER 16

ARMY FITNESS ASSESSMENTS

- 16.1** Army fitness assessments are required to measure the fitness standards across the Army. This is necessary to determine suitability for the various roles within Army, ranging from the basic minimum standard required for initial entry to the higher levels required of special operations personnel. These consist of the following assessments:
- pre-entry barrier assessment,
 - BFA,
 - combat fitness assessment,
 - Army swim test, and
 - in-service barrier tests.
- 16.2** Further information on Army fitness assessments can be found in current Defence instructions. Current Defence instructions should also be referred to ensure accuracy of information within this chapter.

Pre-entry Barrier Assessment

- 16.3** Pre-entry barrier assessments provide the minimum standard that civilian applicants are required to achieve before appointment or enlistment, and are to be completed no earlier than eight weeks before enlistment. Further information on pre-entry barrier assessments is available on the Defence Force recruiting website.
- 16.4** The current minimum requirement to pass a pre-entry barrier assessment is as follows:
- a multistage fitness test to a standard of 7.5,
 - 45 sit-ups, and
 - 15 push-ups for men and eight push-ups for women.

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Basic Fitness Assessment

- 16.5** The BFA measures the minimum fitness standard for all members of the Army. Information on the BFA can be found in *DI(A) PERS 148-2, Army Physical Conditioning Assessment System, 2007*.
- 16.6** The BFA consists of push-ups, sit-ups and run or walk activities. These assess the general strength and endurance of the body and its cardiorespiratory (heart lung) efficiency. The minimum standard required for each activity is graded according to age and gender.
- 16.7** To pass the BFA a member must achieve at least the minimum BFA pass standard in each activity. The pass standards are graded according to age and gender. The minimum standards required for a pass in each age group are detailed in Table 16–1 and Table 16–2.

Table 16–1: Minimum Basic Fitness Assessment Standards – Male

Age	Push-ups (repetitions)	Sit-ups (repetitions)	2.4 km run (time)	5 km walk (time)
25 and under	40	70	11:18	–
26 to 30	35	65	11:48	–
31 to 35	30	57	12:18	–
36 to 40	25	50	12:42	–
41 to 45	20	30	13:12	44:00
46 to 50	10	20	13:48	45:00
51+	6	15	14:30	45:00

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Table 16–2: Minimum Basic Fitness Assessment Standards – Female

<i>Age</i>	<i>Push-ups (repetitions)</i>	<i>Sit-ups (repetitions)</i>	<i>2.4 km run (time)</i>	<i>5 km walk (time)</i>
25 and under	21	70	13:30	–
26 to 30	18	65	14:00	–
31 to 35	15	57	14:30	–
36 to 40	10	50	15:00	–
41 to 45	7	30	15:30	45:00
46 to 50	3	20	16:00	47:00
51+	3	15	16:30	47:00

Combat Fitness Assessment

16.8 The combat fitness assessment measures a soldier's ability to perform the physical demands of combat. Currently, only units on 90 days readiness or less are required to conduct the combat fitness assessment. The combat fitness assessment sequence is as follows:

- a. a run, dodge and jump course for males and females (under 41 years of age) in 50 seconds and 70 seconds for males and females (over 41 years of age). For females, the run, dodge, jump course is to be modified so that the wall is 150 cm high and the ditch is sandbagged to a width of 170 cm;
- b. for non-combat arms units, the 15 km endurance march is to be conducted in patrol order and with a weapon, with a weight not exceeding 20 kg, in 2 hours and 45 minutes; and

- c. for combat arms units, the march is to be conducted in marching order, with a load configuration not exceeding 35 kg, in 2 hours and 45 minutes.

16.9 The run, dodge, jump course is to be completed first and the endurance march completed second within a 24-hour period. Further information on the combat fitness assessment can be found in *DI(A) PERS 148-2, Army Physical Conditioning Assessment System, 2007*.

Swim Test

16.10 The minimum standard of swimming proficiency to be achieved is as follows:

- a. swim 30 m using any swimming stroke, dressed in disruptive pattern camouflage uniform without footwear; and
- b. tread water and remain afloat, out of depth, for 2 minutes.

16.11 Further information on the swim test can be found in *DI(A) PERS 148-2, Army Physical Conditioning Assessment System, 2007*.

In-service Barrier Tests

16.12 In-service barrier tests detail the minimum standard required by serving members applying for further specialist training.

16.13 Information on elective tests available can be found in *DI(A) PERS 148-2, Army Physical Conditioning Assessment System, 2007*. Information on the Special Forces barrier test is available on the SFTC website.