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This weeks media reports will cover and answer great questions veterans are still asking and local Media Articles and An illness or injury can have an impact on your ability to adjust to life after service. We all need healthcare services. The Treatment benefits program provides coverage for a variety of benefits and services to help you get—and stay healthy

Cardiorespiratory Impairment

Introduction

This chapter provides criteria for assessing permanent impairment from entitled cardiorespiratory conditions that affect the heart, lungs, and tracheobronchial tree.

Both loss of cardiac function and respiratory function may be manifested by similar clinical symptoms such as shortness of breath and/or decrease in exercise tolerance. Therefore, only one cardiorespiratory impairment assessment will be obtained for any condition or combination of conditions affecting the heart and/or lungs.

There are two exceptions as indicated below:

A rating for impairment from tuberculosis conditions of the lungs may be applicable from Chapter 24, Tuberculosis Impairment and/or this chapter. The ratings are **compared** and the **highest** selected.
If pulmonary tuberculosis and another restrictive lung disease are both entitled, the conditions are bracketed for assessment purposes.
If pulmonary tuberculosis and other cardiorespiratory condition(s) (other than restrictive lung disease) are entitled, pulmonary tuberculosis is assessed separately. In these cases, there would be a tuberculosis impairment rating from Chapter 24, Tuberculosis Impairment and a cardiorespiratory impairment rating from Chapter 12 Cardiorespiratory Impairment.

Impairment from obstructive sleep apnea is rated from Table 12.8 and is not rated from other tables within this chapter. If obstructive sleep apnea and other cardiorespiratory conditions are entitled, obstructive sleep apnea is rated separately. In these cases, there would be an obstructive sleep apnea impairment rating and a cardiorespiratory impairment rating.

Impairment from hypertension and vascular conditions such as varicose veins, peripheral vascular arterial disease, etc. are rated within Chapter 13, Hypertension and Vascular Impairment.

No rating for entitled cardiac or respiratory conditions is to be taken from tables within Chapter 17, Musculoskeletal Impairment.

Impairment from malignant cardiorespiratory conditions is rated within Chapter 18, Malignant Impairment. Follow the steps contained within the Malignant Impairment chapter.

Rating Tables and Charts

This chapter contains three "Loss of Function" tables and five "Other Impairment" tables which may be used to rate entitled cardiorespiratory conditions. Three charts are also included to assist in evaluating information for impairment purposes.

The tables and charts within this chapter are:

Rating Tables and Charts

Table	Loss of Function	Other Impairment
Table 12.1	Loss of Function - Exercise tolerance - Symptomatic Activity Level - METs	This table is used to rate impairment where there is effort/exercise intolerance.

Table 12.2	Loss of Function - Physiological Measurements	This table is used to rate impairment where there is pulmonary dysfunction.
Table 12.3	Loss of Function - Cardiac Failure	This table is used to rate impairment where there is cardiac failure.
Table 12.4	Other Impairment - Ischemic Heart Disease	This table is used to rate impairment where ischemic heart disease is present.
Table 12.5	Other Impairment - Valvular Heart Disease	This table is used to rate impairment where valvular heart disease is present.
Table 12.6	Other Impairment - Miscellaneous Cardiorespiratory	This table is used to rate impairment where miscellaneous cardiorespiratory conditions of the heart are present.
Table 12.7	Other Impairment - Lower Respiratory Tract	This table is used to rate impairment where lower respiratory tract disease is present.
Table 12.8	Other Impairment - Obstructive Sleep Apnea	This table is used to rate impairment where obstructive sleep apnea is present.
Chart 1	Guide for use of Table 12.1 (Loss of Function - Exercise Tolerance-Symptomatic Activity - METs) and/or Table	This chart is used to determine when to use Exercise Tolerance (METs)

	12.2 (Loss of Function - Physiological Measurements)	and/or Pulmonary Function to determine the rating of impairment.
Chart 2	Cardiorespiratory Impairment: Activity Levels (with energy expenditure in METs)	This chart is used to determine the energy level that gives rise to cardiorespiratory symptoms.
Chart 3	Differentiation of impairment from Obstructive versus Restrictive Lung Disease	This chart is used to identify the presence of Obstructive and/or Restrictive Lung Disease.

Evaluating Functional Loss

Evaluating impairment of the cardiorespiratory system depends primarily on two evaluation tools - pulmonary function testing and exercise tolerance.

Chart 1 provides a guide as to when exercise tolerance and/or pulmonary function measurements should be used to rate impairment.
Pulmonary function testing is readily available and performed in most standard respiratory laboratories.

Exercise tolerance may be evaluated in a laboratory setting (exercise testing) or may be based on detailed clinical information obtained from the Member/Veteran/Client's history. In the majority of cases, no formal exercise testing is required.

Pulmonary Function

Pulmonary function tests provide one means of measuring respiratory function. These tests evaluate airflow and lung volumes as well as diffusion capacity of carbon monoxide. These values are compared to predicted values.

Blood gas values such as partial pressure of oxygen (PO_2) and oxygen saturation may also be useful in the determination of impairment from some lung conditions. Impairment may sometimes be underestimated on the basis

of pulmonary function tests alone, and the evaluation of blood gases provides a further measure of impairment.

A level of impairment can also be determined if continuous oxygen therapy is required. Refer to Table 12.2

The following pulmonary function values will be used to determine the type and/or extent of pulmonary impairment: FVC; FEV1; FEV1/FVC; **and** Dco (Dlco).

FVC (forced vital capacity) is the total volume of air that can be exhaled with maximal force. For VAC purposes, this measurement is used to determine impairment from restrictive lung conditions.

FEV1 (forced expiratory volume in one second) is the volume of air that is exhaled with maximum effort in the first second after a full breath. FEV1 usually accounts for about 75% of FVC. For VAC purposes, this measurement is used to determine impairment from obstructive lung disease.

FEV1/FVC ratio is a comparison between the amount of air exhaled in the first second, compared to the total amount of air exhaled in one breath. For VAC purposes, this measurement is used to differentiate impairment from obstructive versus restrictive lung disease.

Dco (DLco) represents the diffusion capacity of carbon monoxide. This measurement provides information on the efficiency of gas transport across the alveolar-capillary membranes. This is most useful in determining impairment from restrictive lung disease due to parenchymal fibrosis. However, for VAC purposes, this measurement is used to determine impairment from both restrictive and obstructive lung disease. In some cases, the pulmonary function values are the result of both entitled and non-entitled lung conditions. Chart 3 indicates the relationship between lung volume and flow rate for restrictive versus obstructive lung disease, and will assist in determining the types of lung disease present. This knowledge is necessary in applying the criteria within Table 12.2

Exercise Tolerance and Use of METs

Exercise tolerance may be used as a measure of impairment for conditions affecting the heart and lungs. The ability to exercise requires energy. Energy production depends on the provision of oxygen to body cells which involves both the heart and the lungs.

The use of METs, or metabolic units, provides a method of evaluating an individual's ability to exercise. One MET unit represents the baseline amount of oxygen used by the body at rest. (More specifically, one MET unit is 3.5 cc of oxygen per kilogram of body weight per second.)

Chart 2 (METs) groups various activities according to the amount of energy expended; that is, activities using 1-2 METs require smaller amounts of energy than those requiring 3-4 METs.
METs values can be obtained from a detailed Member/Veteran/Client medical history that provides information related to physical activity. This information should assist in the evaluation of the "symptomatic activity level" or the type of activity/activities that produce symptoms such as dyspnea, fatigue, dizziness, and/or chest pain. The rating is assigned based on the level at which activities within one MET category **consistently** give rise to symptoms. When METs values are used, the activities to be considered should be performed in a sustained manner so that there is more than a short, sporadic expenditure of energy, and thus, a more accurate evaluation of the effects of exercise.

Responses of the type "I cannot do such and such" or "I do not do so and so" are not useful in assessing the symptomatic activity level. What must be established is the level of exercise which consistently results in cardiorespiratory symptoms.

In some cases it may not be possible to use exercise tolerance to evaluate cardiorespiratory conditions. This may occur when disease conditions exist that prevent walking or exercising, when the Member/Veteran/Client is frail, or when the Member/Veteran/Client has cognitive impairments that interfere with history taking.

Some cardiorespiratory conditions cannot be accurately rated using exercise tolerance. These include conditions that do not decrease exercise tolerance, conditions that do not produce symptoms, and some conditions which are intermittent.

Cardiac Failure

The degree of cardiac failure, as determined by investigative findings, provides an additional measure of cardiac function. X-ray and/or echocardiography are used to evaluate the extent of cardiac failure. Echocardiography provides a more exact measurement of left ventricular function (ejection fraction), measuring the amount of blood that can be pumped or ejected by the left ventricle in one heart beat. The normal ejection fraction is greater than 60%. When cardiac failure is present, the ejection fraction is reduced.

Loss of Function - Exercise Tolerance - Symptomatic Activity Level - (METS)

Table 12.1 is used to rate impairment of the cardiorespiratory system based on exercise tolerance. Only one rating may be selected irrespective of the number of cardiac and/or pulmonary diseases present.
If non-entitled conditions or conditions rated within another chapter/table of the Table of Disabilities are contributing to the overall impairment, then the Partially Contributing Table (PCT) must be applied to arrive at the rating which is due to the entitled condition(s) rated within this chapter.

Loss of Function - Physiological Measurements

Table 12.2 is used to rate impairment of the cardiorespiratory system based on pulmonary function tests (PFT). Only one rating may be selected. If more than one rating is applicable, the ratings are **compared** and the **highest** selected. When evaluating pulmonary function test results, the percentage of predicted **post-bronchodilator** lung values should be used.
If non-entitled conditions or conditions rated within another chapter/table of the Table of Disabilities are contributing to the overall impairment, then the Partially Contributing Table (PCT) must be applied to arrive at the rating which is due to the entitled condition(s) rated within this chapter.

Loss of Function - Cardiac Failure

Table 12.3 is used to rate impairment from cardiac failure. Only one rating may be selected. If more than one rating is applicable, the ratings are **compared** and the **highest** selected.
Table 12.3 is of particular importance in assessing a Member/Veteran/Client who is unable to be rated using exercise tolerance because of other significant conditions such as hemiplegia.
When entitled cardiac failure conditions result in permanent impairment of other organ systems, a consequential entitlement decision is required. If awarded, the resulting impairment of that organ system(s) will be rated using the applicable body system specific table(s).

If non-entitled conditions or conditions rated within another chapter/table of the Table of Disabilities are contributing to the overall impairment, then the Partially Contributing Table (PCT) must be applied to arrive at the rating which is due to the entitled condition(s) rated within this chapter.

Other Impairment - Ischemic Heart Disease

Table 12.4 is used to rate impairment from ischemic heart disease. Only one rating may be selected. If more than one rating is applicable, the ratings are **compared** and the **highest** selected.
When entitled ischemic heart conditions result in permanent impairment of other organ systems, a consequential entitlement decision is required. If awarded, the resulting impairment of that organ system(s) will be rated using the applicable body system specific table(s).

If non-entitled conditions or conditions rated within another chapter/table of the Table of Disabilities are contributing to the overall impairment, then the Partially Contributing Table (PCT) must be applied to arrive at the rating which is due to the entitled condition(s) rated within this chapter.

Other Impairment - Valvular Heart Disease

Table 12.5 is used to rate impairment from valvular heart disease. Only one rating may be selected. If more than one rating is applicable, the ratings are **compared** and the **highest** selected.

When entitled valvular heart conditions result in permanent impairment of other organ systems, a consequential entitlement decision is required. If awarded, the resulting impairment of that organ system(s) will be rated using the applicable body system specific table(s).

If non-entitled conditions or conditions rated within another chapter/table of the Table of Disabilities are contributing to the overall impairment, then the Partially Contributing Table (PCT) must be applied to arrive at the rating which is due to the entitled condition(s) rated within this chapter.

Other Impairment - Miscellaneous Cardiac Conditions

Table 12.6 is used to rate impairment from miscellaneous cardiac conditions. Only one rating may be selected. If more than one rating is applicable, the ratings are **compared** and the **highest** selected.
When entitled miscellaneous cardiac conditions result in permanent impairment of other organ systems, a consequential entitlement decision is required. If awarded, the resulting impairment of that organ system(s) will be rated using the applicable body system specific table(s).

If non-entitled conditions or conditions rated within another chapter/table of the Table of Disabilities are contributing to the overall impairment, then the Partially Contributing Table (PCT) must be applied to arrive at the rating which is due to the entitled condition(s) rated within this chapter.

Other Impairment - Lower Respiratory Tract

Table 12.7 is used to rate impairment from lower respiratory tract conditions. Only one rating may be selected. If more than one rating is applicable, the ratings are **compared** and the **highest** selected.
When entitled lower respiratory tract conditions result in permanent impairment of other organ systems, a consequential entitlement decision is required. If awarded, the resulting impairment of that organ system(s) will be rated using the applicable body system specific table(s).

In pictures: Canadian Armed Forces mobilize over NWT wildfires

Cabin Radio
The Canadian Armed Forces (CAF) have been busy since they landed in the NWT, helping to cut fire breaks, evacuate residents, and fight fires. Their support began last Saturday, when the first 10 members arrived to begin handling logistics. On the morning of Aug. 14, CAF helped with evacuation flights in the South Slave. Read More

Military training continues this weekend near Pakenham, Arnprior, Fitzroy Harbour and beyond

Inside Ottawa Valley
Canadian Army Reserve personnel from 33 Combat Engineer Regiment (33 CER) will conduct Exercise ABLE SAPPER, which is convoy and assault boat training on the Ottawa River and Rideau Canal, on upcoming weekends throughout August. Activities will include convoy drills on planned routes and the deployment of inflatable boats and army personnel on the Ottawa River and Rideau Canal. Read More

Feux de forêt : David Eby en déplacement, l'heure est aux bilans en Colombie-Britannique

Radio-Canada
Un portrait plus complet des dégâts causés par les feux de forêt qui ravagent la région de l'Okanagan, en Colombie-Britannique, a commencé à se dessiner mardi. Près de 200 structures ont été détruites, mais aucun décès n'a été signalé. Le chef des pompiers de West Kelowna, Jason Brolund, a d'abord annoncé que le bilan des dommages recensés jusqu'à présent faisait état de près de 70 structures détruites à West Kelowna, en plus de quelque 20 autres sur le territoire de la Première Nation de Westbank. Lire Plus

Lethbridge Military Museum unveils PTSD exhibit

Bridge City News
Over the years we have learned so much about post-traumatic stress disorder and its impact on Canadians. A new traveling exhibit at the Lethbridge Military Museum hopes to showcase the

importance of recognizing the horrible issues that Canadian soldiers throughout history had to deal with including PTSD. Read More

Russia's planting mines everywhere, even cruelly hiding explosives in everyday items like fridges, toys, and children's books, Ukrainian military engineers say

Business Insider
Ukraine has been battling Russia's invasion for more than 17 months, but it's held it's own and even managed to liberate massive swaths of land that it lost early in the fighting. By some Western estimates, around 50 per cent of what was initially seized has already been reclaimed by Kyiv's troops. Read More

L'option militaire Bombardier: «Il faut qu'on se tienne debout comme pays»

Le Droit
Le remplacement de 16 avions militaires canadiens de surveillance maritime représente des occasions d'affaires pour l'économie régionale, à Trois-Rivières, Sherbrooke et Granby. Spécialisée dans les systèmes mécaniques, l'entreprise granbyenne Atlas Aeronautik entrevoit l'éventuel appel d'offres public comme une opportunité. Lire Plus

Ukraine tests homemade demining machine

Reuters
Ukrainian volunteers have joined up with the army to morph a standard excavator into an efficient demining machine. Read More

'We're the suicide squad': The Ukrainian sappers clearing mines

The Times

Armed with little more than a knife and a shovel, the sappers come alive at night, sneaking into no man's land. They work in silence under cover of darkness, creeping through the undergrowth looking for mines, the presence of a Russian explosive betrayed only by a vibration in the lead sapper's metal detector. Read More