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Update 2019 – 1

**TO: HOLDERS OF THE *REHABILITATION SERVICES & CLAIMS MANUAL*
– VOLUME II**

This update of the *Rehabilitation Services & Claims Manual* contains amendments in the *Manual* implemented since update 2018 – 5.

The revised pages are amendments for:

- Consumer Price Index adjustments in various Chapters
- Appendix 4, *Permanent Disability Evaluation Schedule*

A summary is attached and the amended pages are included as part of the package, effective **January 1, 2019**.

These amended pages and the complete manual are available at
http://www.worksafebc.com/regulation_and_policy/default.asp.

Ian Shaw
Senior VP and General Counsel

Attachments

Rehabilitation Services & Claims Manual, Volume II

SUMMARY OF AMENDMENTS – Update 2019 – 1

Chapter 5	Pages 5 to 6	Policy item #34.20, CPI adjustments
Chapter 6	Pages 5 to 6 and 27 to 32	Policy items #37.20 and #43.20, CPI adjustments
Chapter 7	Pages 13 to 14 and 21 to 24	Policy items #49.10, #51.00 and #51.20, CPI adjustments
Chapter 8	Pages 1 to 2 Pages 1 to 2 Pages 1 to 4 Pages 1 to 4 Pages 1 to 4 Pages 1 to 4 Pages 1 to 2	Item C8-54.00, CPI adjustments Item C8-55.00, CPI adjustments Item C8-56.00, CPI adjustments Item C8-56.10, CPI adjustments Item C8-56.40, CPI adjustments Item C8-56.60, CPI adjustments Item C8-56.70, CPI adjustments
Chapter 9	Pages 11 to 12 and 29 to 30	Policy items #67.31 and #69.00, CPI adjustments
Chapter 10	Pages 1 to 2 Pages 5 to 6 Pages 5 to 6 Pages 5 to 6 and 11 to 12	Item C10-82.00, CPI adjustments Item C10-83.00, CPI adjustments Item C10-83.10, CPI adjustments Item C10-84.00, CPI adjustments
Chapter 17	Pages 7 to 8	Policy item #114.11, CPI adjustments
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CPI adjustments

With regard to the latter situation, it is recognized that no condition is ever absolutely stable or permanent; there will commonly be some degree of fluctuation. Nevertheless, a permanent disability award will be granted when, though there may be some changes, the condition will, in the reasonably foreseeable future, remain essentially the same. The fluctuations in the condition of a worker receiving a permanent disability award may be such as to require the worker to stay off work from time to time. The question then arises whether wage-loss benefits should be paid for these periods. If the fluctuations causing the disability are within the range normally to be expected from the condition for which the worker has been granted a permanent disability award, no wage loss is payable. The permanent disability award is intended to cover such fluctuations. Wage loss is only payable in cases where there is medical evidence of a significant deterioration in the worker's condition which not only goes beyond what is normally to be expected, but is also a change of a temporary nature. If the change is a permanent one, the worker's permanent disability award will simply be reassessed.

#34.20 Minimum Amount of Compensation

Wage-loss compensation cannot be less per week than the minimum set out below, unless the worker's average earnings are less than that sum per week, in which case compensation is paid in an amount equal to average earnings. (2)

			\$ Per Week
January 1, 2018	—	December 31, 2018	405.87
January 1, 2019	—	December 31, 2019	415.79

If required, earlier figures may be obtained by contacting the Board.

The minimum is subject to cost of living adjustments as described in policy item #51.20. However, these adjustments only apply to injuries or disablements occurring after they come into force. Existing payments are not automatically increased to a new minimum, although they may be the subject of cost of living adjustments in their own right.

#34.30 Commencement of Payment

Section 5(2) provides that "Where an injury disables a worker from earning full wages at the work at which the worker was employed, compensation is payable. . . from the first working day following the day of the injury; but a health care benefit only is payable . . . in respect of the day of the injury."

While the plain wording of the section would seem clearly to indicate that "day of the injury" means calendar day, the Board finds that the intention of the legislation is not to provide payment for the "shift" on which the worker is injured but to provide payment for any subsequent "shift" on which the worker is

disabled. Payment of compensation, therefore, will commence effective the shift next following the shift on which the worker is injured.

#34.31 *Worker Continues to Work After Injury*

If a worker continues to work beyond the day of the injury, no compensation is payable until it actually causes a lay-off from work. If the worker works or is paid for part of the day on which the lay-off occurs, the amount of compensation paid for that day is as follows:

- (a) if he or she works or is paid for one quarter of the day or less, compensation is paid for the full day;
- (b) if he or she works or is paid for more than one quarter but less than three quarters of the day, compensation is paid for half the day;
- (c) if he or she works or is paid for three quarters of the day or more, compensation is not paid for the day.

Except where section 34(1) is being applied, (3) the employer is not refunded any money paid to the worker for time not worked on the day when he or she lays off work.

The above rules apply equally where the worker becomes disabled from working following a recurrence of a compensable condition.

#34.32 *Strike or Other Lay-Off on Day Following Injury*

In cases where a worker's job would not have been available during a period of disability, or for some reason the worker cannot or will not be returning to the prior job upon recovery, the following general guidelines will apply.

- 1. Where the injury disables the worker beyond the day of the injury and this results in an actual loss of earnings or a potential loss of earnings, the requirement of section 5(2) will be met and wage-loss compensation will be paid.
- 2. Where the disability beyond the day of injury does not result in any actual or potential loss of earnings, the requirements of section 5(2) will be deemed to have not been met.

In interpreting "potential loss" no rigid rules can be established since every case will have to be determined on the information received. In situations where there is a lay-off due to lack of work, a worker would normally be considered as having suffered a potential loss. The position would be similar where a partially disabled worker has continued work on light work and has been laid off due to a lack of work, but payments on such a claim would be considered under section 30 of the

#37.20 Minimum Amount of Compensation

Section 22(2) provides that the compensation awarded for permanent total disability cannot be less per month than the minimum set out below. This minimum is subject to cost of living adjustments as described (policy item #51.20).

			\$ Minimum
January 1, 2018	—	December 31, 2018	1,759.04
January 1, 2019	—	December 31, 2019	1,802.04

If required, earlier figures may be obtained by contacting the Board.

#37.21 Statutory Minimum Application

The statutory minimum only applies in cases where a worker is found to be 100% disabled under the section 23(1) method of permanent disability assessment. It does not apply when the percentage of disability is less than 100% but the worker is found to be totally unemployable under the section 23(3) method of permanent disability assessment. (2)

#37.30 Reopening Claims

Where a claim involving a permanent total disability is reopened, no payments of wage loss can be made. Wage loss may, however, be payable where a worker receiving a permanent total disability award of less than the current maximum suffers a new injury at work. The amount payable would be the difference between the periodic payment being paid on the old claim and 90% of the long term average net earnings on the new claim, limited by the current maximum.

#38.00 COMPENSATION FOR PERMANENT PARTIAL DISABILITY

Section 23 of the *Act* pertains to the determination of a worker's entitlement to compensation for a permanent partial disability award. An award granted under section 23 compensates a worker for permanent partial disability that results from a work injury. Section 23(1) is the mandatory provision that must be applied in the assessment of permanent partial disabilities. Only in exceptional circumstances will an assessment be done under section 23(3).

In all cases where a permanent partial disability results from a work injury, a worker's entitlement to a permanent partial disability award must be calculated using the method set out in section 23(1) of the *Act*. In determining the

compensation payable under 23(1), the Board may be guided by section 23(2), which permits the use of a schedule of percentages of impairment of earning capacity for specified injuries or mutilations.

In all but exceptional cases, the effect of the disability on a worker will be appropriately compensated under section 23(1).

Only in exceptional cases will section 23(1) not be the method of assessment used to determine a worker's entitlement to a permanent partial disability award. In these cases the Board considers whether the combined effect of a worker's occupation at the time of injury and the disability resulting from the injury is so exceptional, that the section 23(1) method does not appropriately compensate the worker for the injury. In these exceptional cases, the Board has the discretion to assess a worker's entitlement to a permanent partial disability award under section 23(3) of the *Act*.

#39.00 SECTION 23(1) ASSESSMENT

Section 23(1) of the *Act* provides:

Subject to subsections (3) to (3.2) and sections 34 and 35, if a permanent partial disability results from a worker's injury, the Board *must*

- (a) estimate the impairment of earning capacity from the nature and degree of the injury, and
- (b) pay the worker compensation that is a periodic payment that equals 90% of the Board's estimate of the loss of average net earnings resulting from the impairment.

(emphasis added)

In all cases where a permanent partial disability results from a worker's injury, the Board must assess the worker's entitlement to a permanent partial disability award under section 23(1) of the *Act*. Section 23(1) is a mandatory legislative provision which sets out the rule the Board follows in determining a worker's impairment of earnings capacity resulting from a work injury.

The percentage of disability determined for the worker's condition under section 23(1)(a), reflects the extent to which a particular injury is likely to impair a worker's ability to earn in the future.

#43.20 Amount of Award

In calculating the amount of an award, the guidelines set out below apply:

1. Points are assigned to each of five factors assessed individually according to the table set out below. The assessment will normally be based on photographs of the worker but there may also be a visual examination of the worker in exceptional cases. The Board will give reasons for the points assigned to each factor.

POINTS/FACTORS	0–24 POINTS	25–49 POINTS	50–74 POINTS	75–99 POINTS
Surface area of part of body (see guideline 3)	Less than 25%	25%–49%	50%–74%	75% or more
Texture and thickening.	Mild alteration of texture.	Moderate thickening.	Major thickening.	Severe
keloid scarring hardening.	Slight wrinkly, furrows or marks.	Moderate hardening. Mild dryness or scaling. Prone to pimples.	Major hardening. Moderate dryness or scaling. Frequent pimples. Prone to ulceration.	Severe Major dryness or scaling. Frequent ulceration. Significant irregularity of scar.
Colour	Mild alteration of colour.	Moderate alteration of colour.	Major alteration of colour.	Severe alteration of colour.
Visibility	Less than 25% visible with work clothing.	25 to 49% visible with work clothing.	50 to 74% visible with work clothing.	75% visible or greater with work clothing.
Loss of bodily form	Mild depression or elevation.	Moderate depression or elevation.	Major depression or elevation. Moderate to major atrophy. Moderate to major irregularity of body.	Severe depression or elevation. Severe muscle or tissue loss.

2. An average is taken of the points assigned by dividing the total points by five. The result is rounded up to the nearest whole number. The disfigurement is then placed in one of four classes as follows:

Class 1	0 to 24 points
Class 2	25 to 49 points
Class 3	50 to 74 points
Class 4	75 to 99 points

3. The area of the body affected is determined. Five areas are recognized. A minimum and maximum award exists for each of the four classes for each area of the body including a dollar value per point within each class as shown in the following tables:

January 1, 2019 – December 31, 2019

Head and Neck

Class	Maximum Points	Minimum Award for Class (\$)	Maximum Award for Class (\$)	Dollar Value per point within Class (\$)
1	24	0	6,998.16	291.59
2	49	7,278.08	13,996.16	279.92
3	74	15,136.84	42,513.16	1,140.68
4	99	43,646.85	70,855.41	1,133.69

Each Hand

Class	Maximum Points	Minimum Award for Class (\$)	Maximum Award for Class (\$)	Dollar Value per point within Class (\$)
1	24	0	2,274.48	94.77
2	49	2,372.44	4,723.48	97.96
3	74	5,094.38	13,995.98	370.90
4	99	14,380.87	23,618.23	384.89

Each Arm

Class	Maximum Points	Minimum Award for Class (\$)	Maximum Award for Class (\$)	Dollar Value per point within Class (\$)
1	24	0	1,749.60	72.90
2	49	1,819.58	3,499.10	69.98
3	74	3,786.00	10,671.60	286.90
4	99	10,951.52	17,669.60	279.92

Each Leg (including the foot)

Class	Maximum Points	Minimum Award for Class (\$)	Maximum Award for Class (\$)	Dollar Value per point within Class (\$)
1	24	0	1,224.24	51.01
2	49	1,266.24	2,274.24	42.00
3	74	2,463.21	6,998.49	188.97
4	99	7,185.90	11,683.74	187.41

Torso

Class	Maximum Points	Minimum Award for Class (\$)	Maximum Award for Class (\$)	Dollar Value per point within Class (\$)
1	24	0	1,224.24	51.01
2	49	1,266.24	2,274.24	42.00
3	74	2,463.21	6,998.49	188.97
4	99	7,185.90	11,683.74	187.41

The dollar values per point within each class are adjusted on January 1 of each year. The minimum and maximum award for each class are adjusted accordingly. Effective June 30, 2002, the percentage change in the consumer price index determined under section 25.2 of the Act, as described in policy item #51.20 will be used.

4. The amount of the award in Class 1 is obtained by multiplying the average criterion score for disfigurement by the dollar value per point within the class. For example, if the average criterion score for a hand disfigurement is 6, it is assigned to Class 1 of the hands area of the body and the amount of the award is \$568.62 (6 x \$94.77).
5. The amount of the award for a disfigurement in Classes 2, 3 or 4 is obtained by subtracting the maximum points in the previous class from the average criterion score for disfigurement. Next, the total is multiplied by the dollar value per point within the class, followed by adding to the total, the maximum award in the previous class. For example, if a burn to the chest is assigned an average criterion score of 34, it is in Class 2 of the torso area of the body and the amount of the award is \$1,644.24 [(34 – 24) x \$42.00 + \$1,224.24].

Detailed examples of the application of the above guidelines are set out below:

Example 1

The worker has a loss of the fingernail and nailbed, slight shortening of the right mid finger, a small curved raised nail growing through the graft at the injury site. Assuming that the disfigurement was found capable of impairing earning capacity, the award would be calculated as follows:

Factors	Description	Points
Surface area	Less than 25%	2
Texture / keloid	Minimal alteration; no keloid	2
Colour	No contrast	0
Visibility	Less than 25%	20
Structure	Mild evidence of depression	5

- A. Total points are 29.
- B. Average criterion score is 6 (29/5). Disfigurement is in Class 1.
- C. Multiply the average criterion score for the hand disfigurement by the dollar value per point within Class 1 = \$568.62 (6 x \$94.77).

Amount awarded is \$568.62.

Example 2

The worker has healed burns that extend up the right side and front of the abdomen and chest. There is evidence of occasional ulceration and moderate irregularity of the scars. Scar colour is significantly different when compared to unaffected skin. Assuming that the disfigurement was found capable of impairing earning capacity, the award would be calculated as follows:

Factors	Description	Points
Surface area	Less than 25%	20
Texture / keloid	Some puckering and contraction moderate keloid, scars raised to 3 mm	70
Colour	Significant contrast	80
Visibility	Nil	0
Structure	No evidence of depression or elevation other than keloid	0

- A. Total points are 170.
- B. Average criterion score is 34 (170/5). Disfigurement is in Class 2.
- C. The maximum points for a torso disfigurement in the previous class (Class 1) subtracted from the average criterion score for the torso disfigurement is 10 (34 – 24).
- D. The total from line C multiplied by the dollar value per point within Class 2 for a torso disfigurement, followed by adding to the total, the maximum award for a torso disfigurement in the previous Class (Class 1) is \$1,644.24 [(34 – 24) x \$42.00 + \$1,224.24].

Amount awarded is \$1,644.24.

EFFECTIVE DATE:

June 1, 2009 – Delete reference to Board officer.

HISTORY:

May 1, 2008 – Amendments to the formula for determining the amount of disfigurement awards to ensure that disfigurement awards increase uniformly within each class for greater degrees of disfigurement. Applies to all decisions including appellate decisions made on or after May 1, 2008.

APPLICATION:

Applies on or after June 1, 2009

#44.00 PROPORTIONATE ENTITLEMENT

Section 5(5) of the *Act* provides:

Where the personal injury or disease is superimposed on an already existing disability, compensation must be allowed only for the proportion of the disability following the personal injury or disease that may reasonably be attributed to the personal injury or disease. The measure of the disability attributable to the personal injury or disease must, unless it is otherwise shown, be the amount of the difference between the worker's disability before and disability after the occurrence of the personal injury or disease.

This subsection deals with cases where the compensability of the immediate injury and disability has been accepted by the Board. It does not concern itself with the initial adjudication as to the causation of the particular disability.

#44.10 Meaning of Already Existing Disability

The mere fact that the worker suffered from some weakness, condition, disease, or vulnerability which partially caused the personal injury or disease is not sufficient to bring Proportionate Entitlement into operation. The pre-existing condition must have amounted to a disability prior to the occurrence of the injury or disease.

Three situations are distinguished:

1. In cases where it has been decided that the precipitating event or activity, and its immediate consequences, were so severe that the full disability presently suffered by the worker would have resulted in any event, regardless of any pre-existing disability, section 5(5) should not be applied.
2. In cases where the precipitating event or activity, and its immediate consequences, were of a moderate or minor significance, and where there is only x-ray evidence and nothing else showing a moderate or advanced pre-existing condition or disease, Proportionate Entitlement should not be applied. These cases should not be classified as a disability where there are no indications of a previously reduced capacity to work and/or where there are no indications that prior ongoing medical treatment had been requested and rendered for that apparent disability. In determining whether there has been ongoing treatment, regard will be had to the frequency of past treatments and how long before the injury they occurred.

#49.00 INCAPACITY OF A WORKER

Under section 12 of the *Act*, “A worker under the age of 19 years is sui juris for the purpose of this Part, and no other person has a cause of action or right to compensation for the personal injury or disablement except as expressly provided in this Part.”

An exception is made by section 35(1) of the *Act* which provides in part that “. . . in the case of minors or persons of unsound mind who the board considers are incapable of managing their own affairs, . . .” payments of compensation “. . . may be made to the persons that the board thinks are best qualified in all the circumstances to administer the payments, whether or not the person to whom the payment is made is the legal guardian of the person in respect of whom the payment is being made.”

Compensation benefits due to a worker, where a public trustee has been appointed, will be issued in the name of the worker but sent to the public trustee.

#49.10 Worker Receiving Custodial Care in Hospital

Section 35(5) provides that “Where a worker is receiving custodial care in a hospital or elsewhere, periodical payments of compensation due to the worker . . . may be paid to or for the benefit of

- (a) the worker to the extent the worker is able to make use of the money for his or her personal needs or is able to manage his or her own affairs; or
- (b) any person who is dependent on the worker for support, or in a case of temporary disability of the worker may be
- (c) applied to the maintenance of a home to which the worker is likely to return on his or her recovery; or
- (d) accumulated by the board for payment to the worker on his or her recovery,

or in a case of permanent disability may be applied toward the cost of the worker's maintenance, but, in that case and where the worker is conscious, there must be paid to, or for the use of, the worker a comfort allowance of at least . . .” the amount set out below out of each periodic payment.

January 1, 2018	—	December 31, 2018	\$242.52
January 1, 2019	—	December 31, 2019	\$248.45

If required, earlier figures may be obtained by contacting the Board.

“Subsection (5) applies, regardless of the date of the injury.” (4)

#49.11 *Meaning of Custodial Care in Hospital or Elsewhere in Section 35(5)*

Section 35(5) applies where a worker is receiving “custodial care in a hospital or elsewhere”.

“Custodial care” requires that the worker be undergoing a voluntary or involuntary stay in, and be receiving care from, a hospital or other similar institution. Only long-term or permanent residence in a hospital or similar institution could amount to “custodial care”. It does not cover periodic stays in hospital which a worker might have to undergo for the purpose of surgery or other treatment.

A worker is not considered to be receiving “custodial care” when confined to prison or other corrective institution. While the worker might be said to be in involuntary custody, it is not felt that the worker is undergoing “care” for the purpose of the section. The case would be different if the prison or corrective institution were also a hospital. The Board has authority under section 98(3) of the *Act* to discontinue the compensation of workers confined to prison. (5)

#49.12 *Nature of the Board's Authority under Section 35(5)*

Section 35(5) clearly confers a discretionary power on the Board. In exercising this discretion, the Board is free to choose any of the applicable alternatives listed in section 35(5) without regard to the order in which they are set out. There is no obligation on the Board to give any priority to any of the alternative choices set out in the section.

This does not mean that, in exercising its discretion under section 35(5), the Board cannot set its own priorities for the application of the various alternatives. The necessity to set guidelines for Board staff in their administration of this section, as a matter of practice, may require that the Board lay down some order of priority. This will appear from the guidelines set out below in relation to the sub-paragraphs of section 35(5).

#49.13 *Application of Section 35(5) in Cases of Temporary Disability*

In the case of a worker entitled to temporary disability payments who is receiving custodial care in a hospital or elsewhere, the Board may take any of the alternative courses of action set out in paragraphs (a) to (d) of section 35(5). Guidelines for applying these alternatives are set out below in paragraphs 1. to 4.

#50.00 INTEREST

With respect to compensation matters, the *Act* provides express entitlement to interest only in the situations covered by sections 19(2)(c) and 258. In these situations, the Board will pay interest as provided for in the *Act* (see Item C8-61.10 and policy item #100.83).

In all cases where a decision to award interest is made, the Board will pay simple interest at a rate equal to the prime lending rate of the banker to the government (i.e., the CIBC). During the first 6 months of a year interest must be calculated at the interest rate as at January 1. During the last 6 months of a year interest must be calculated at the interest rate as at July 1.

For practical reasons, certain mathematical approximations may be used in the calculations.

The rate of interest provided in this policy will also be used in the calculation of overpayments as outlined in policy item #48.42.

EFFECTIVE DATE: January 1, 2014

HISTORY: By Board of Directors resolution 2015/11/25-01, the application statement of this policy was revised on November 25, 2015.

January 1, 2014 – Policy changes to reflect the removal of the blatant Board error test were made effective January 1, 2014.

June 1, 2009 – Delete references to Board officers.

March 1, 2006 – Amendments to provide for the payment of interest to the dependants of deceased workers in respect of retroactive section 17 payments that are the result of a blatant Board error. Applied to all decisions, including appellate decisions, made on or after March 1, 2006.

APPLICATION: Applies to all decisions made on or after January 1, 2014 except where retroactive benefits under sections 17, 22, 23, 29 or 30 of the *Workers Compensation Act* have already been awarded and the initial adjudication on the question of entitlement to interest had been deferred prior to January 1, 2014.

#51.00 COST OF LIVING ADJUSTMENTS TO PERIODIC PAYMENTS

Sections 25(1) and (2) of the *Act* provide the method for indexing periodic payments of compensation to a worker. The sections provide:

- (1) For the purposes of this section, the Board must, as of January 1 of each year,
 - (a) determine the percentage change in the consumer price index for Canada, for all items, for the 12 month period ending on October 31 of the previous year, as published by Statistics Canada, and
 - (b) subtract 1% from the percentage change determined under paragraph (a).
- (2) The percentage resulting from calculations made under subsection (1) must not be greater than 4% or less than 0%.

The Board determines the indexing factor to be applied to periodic payments of compensation to a worker or a dependant in the following manner:

- The Board compares the consumer price index for October of the previous year with the consumer price index for October of the year prior to the previous year.
- One percentage point is subtracted from the percentage change between these two consumer price indexes.
- If the percentage that results from this subtraction is greater than 4%, it is reduced to 4%. If the percentage that results from this subtraction is less than 0%, no adjustment to periodic payments of compensation is made.

The resulting percentage changes determined annually are set out below:

Date	Percentage
January 1, 2019	1.444614

If required, earlier figures may be obtained by contacting the Board.

The resulting percentage change is applied on January 1 of each year to periodic payments of compensation made continuously in respect of an injury or a death occurring more than 12 months before the date of the adjustment.

If the Board starts or restarts periodic payments of compensation on a date more than 12 months after the date of the worker's injury or death, the Board adjusts all periodic payments as if payments were made continuously from the date of injury or death. This means that if payments on a claim are started or restarted more than 12 months after the injury or death, the worker or dependant receives

the benefit of any cost of living adjustments occurring in the interim period as if he or she had been continuously paid since the date of injury or death.

Compensation paid to a worker on or after June 30, 2002 will be indexed according to section 25 of the *Act*, irrespective of the date the worker was injured. However, if the Board pays to a worker, who was injured before June 30, 2002, compensation as a result of a retroactive adjustment, the indexing rules in section 25 of the *Act*, as it read immediately before June 30, 2002, apply to the compensation benefits that should have been paid to the worker before June 30, 2002. Compensation due to the worker on or after June 30, 2002 will be indexed according to section 25 of the *Act*.

Effective December 31, 2003, compensation paid to a dependant of a deceased worker is indexed under section 25 of the *Act* regardless of the date that the worker died. However, if the Board retroactively adjusts compensation in respect of a death that occurred before December 31, 2003, the indexing rules in section 25.1 of the *Act*, as it read immediately before December 31, 2003, apply to the compensation that should have been paid to the dependant before that date. Compensation owing to the dependant on or after December 31, 2003 is indexed under section 25 of the *Act*.

Authority to approve adjustments under section 25 has been assigned to the President.

Effective Date: December 31, 2003 (as to references to benefits paid to surviving dependents).

Application: This policy item applies to all periodic payments made to workers and surviving dependants.

#51.20 Dollar Amounts in the *Act*

Section 25.2 (1) of the *Act* provides:

Subject to subsection (3), the Board must adjust every dollar amount referred to in this Act on January 1 of each year by applying the percentage change in the consumer price index for Canada, for all items, for the 12 month period ending on October 31 of the previous year, as published by Statistics Canada.

The Board determines the percentage change to be applied each January 1 to dollar amounts in the *Act* by comparing the consumer price index for October of the previous year with the consumer price index for October of the year prior to the previous year.

The resulting percentage changes determined annually are set out below:

Date	Percentage
January 1, 2019	2.444614

If required, earlier figures may be obtained by contacting the Board.

When the Board makes the adjustments, those dollar amounts referred to in the *Act* are deemed to be amended.

These provisions do not apply to the figures referred to in policy item #39.61, the maximum wage rate and other figures referred to in policy item #69.00.

Authority to approve adjustments under section 25.2 has been assigned to the President.

Authority has also been assigned to the President to adjust the following amounts to reflect changes based upon the consumer price index, using the formula set out in the applicable item of the *Manual*:

Maximum and Minimum Disfigurement Amount	#43.20
Clothing Allowances	C10-82.00
Additional Benefits for Severely Disabled Workers	C10-84.00
Transportation Allowance	C10-83.00
Subsistence Allowances	C10-83.10
Transfer of Costs	#114.11
Funeral and Other Death Expenses	C8-54.00

The Board adjusts dollar amounts referred to in sections 17 and 18 of the *Act* in accordance with section 25.2 of the *Act*. In addition, effective December 31, 2003, the Board adjusts the dollar amounts referred to in sections 17 and 18 and Schedule C of the *Act*, as it read immediately before June 30, 2002, in accordance with section 25.2 of the *Act*.

EFFECTIVE DATE: December 31, 2003 (as to references to sections 17 and 18 of the *Act* as well as dollar amounts in sections 17 and 18 and Schedule C of the *Act* as it read immediately before June 30, 2002).

**RE: Compensation on the Death of a Worker-
Funeral and Other Death Expenses**

ITEM: C8-54.00

BACKGROUND

1. Explanatory Notes

This policy establishes the amount the Board will pay for funeral and other death expenses following the death of a worker. It also describes who is eligible to receive payments for these expenses.

2. The Act

Section 17(2):

Where compensation is payable as the result of the death of a worker or as the result of injury resulting in death,

- (a) in addition to any other compensation payable under this section, an amount in respect of funeral and related expenses, as determined in accordance with the policies of the board of directors, must be paid out of the accident fund,
- (b) the employer of the worker must bear the cost of transporting the body to the nearest business premises where funeral services are provided, and
- (c) if burial does not take place there, the costs of any additional transportation, up to a maximum determined in accordance with the policies of the board of directors, may be paid out of the accident fund.

Section 17(2.1):

No action for an amount larger than that established by subsection (2) lies in respect of the funeral, burial or cremation of the worker or cemetery charges in connection with it.

POLICY

1. Funeral and Other Death Expenses

Where compensation is payable as the result of the death of a worker or as the result of injury resulting in death, an amount for funeral and related expenses is paid in addition to any other compensation payable. The maximum amount payable for funeral and related expenses is set out below.

The employer of the worker is required to bear the cost of transporting the body to the nearest business premises where funeral services are provided, and if burial does not take place there any additional transportation may, up to the sum set out below, be paid by the Board.

	Funeral And Related Expenses	Transportation of Body
January 1, 2018 – December 31, 2018	\$9,268.72	\$1,464.39
January 1, 2019 – December 31, 2019	\$9,495.30	\$1,500.19

If required, earlier figures may be obtained by contacting the Board.

Effective December 31, 2003, the above figures are adjusted annually on January 1 of each year. The percentage change in the consumer price index determined under section 25.2 of the *Act*, as described in policy item #51.20, is used.

No action for an amount larger than that established by the above provisions lies in respect of the funeral, burial, or cremation of the worker or cemetery charges in connection with it.

2. Person to Whom Expenses are Paid

Payment of funeral and related expenses is made to the most eligible person or persons, as determined by the Board. In determining whom to pay, the Board considers who has incurred the cost of funeral and related expenses, or who has undertaken to meet those payments.

Where the funeral and related expenses are less than the maximum provided in this Item, the Board pays only the actual amount of funeral and related expenses.

Once the Board has paid out the maximum amount provided in this Item to one or more persons, the Board does not consider any other claims for funeral and related expenses.

**RE: Compensation on the Death of a Worker –
Lump Sum Payment****ITEM: C8-55.00**

BACKGROUND

1. Explanatory Notes

This policy describes the provision of a lump sum payment to eligible surviving spouses, common law spouses or foster parents.

2. The Act

Section 17(13):

In addition to any other compensation provided, a dependent surviving spouse, common law spouse or foster parent in Canada to whom compensation is payable is entitled to a lump sum of \$2,804.44.

POLICY

Lump Sum Payment

A dependent surviving spouse, common law spouse, or foster parent in Canada to whom compensation is payable as a result of a worker's death is also entitled to a lump sum payment as follows:

January 1, 2018	—	December 31, 2018	\$2,737.52
January 1, 2019	—	December 31, 2019	\$2,804.44

If required, earlier figures may be obtained by contacting the Board.

Payment of this amount is made as soon as the claim is accepted.

PRACTICE

For any relevant PRACTICE information, please consult the WorkSafeBC website at worksafebc.com.

EFFECTIVE DATE:	December 31, 2003
AUTHORITY:	Section 17(13) of the <i>Act</i> .
CROSS REFERENCES:	Policy item #51.20, <i>Dollar Amounts in the Act</i> .
HISTORY:	Housekeeping amendments made on November 24, 2011 in accordance with amendments to the <i>Act</i> . Replaces policy item #55.10 of the <i>Rehabilitation Services & Claims Manual</i> , Volume II.
APPLICATION:	This Item applies to the death of a worker on or after December 31, 2003.

**RE: Compensation on the Death of a Worker
Calculation of Compensation –
Surviving Spouse with Children**

ITEM: C8-56.00

BACKGROUND

1. Explanatory Notes

This policy describes how compensation as a result of a worker's death is calculated for a dependent surviving spouse with dependent children.

2. The Act

Section 1:

“surviving spouse” means a person who was a spouse of a worker when the worker died.

Section 17:

- (3) Where compensation is payable as the result of the death of a worker or of injury resulting in such death, compensation must be paid to the dependants of the deceased worker as follows:
- (a) where the dependants are a surviving spouse and 2 or more children, a monthly payment of a sum that, when combined with 50% of the federal benefits payable to or for those dependants, would equal the total of
 - (i) the monthly rate of compensation under this Part that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability, subject to the minimum set out in paragraph (g); and
 - (ii) \$364.42 per month for each child beyond 2 in number.
 - (b) where the dependants are a surviving spouse and one child, a monthly payment of a sum that, when combined with 50% of the federal benefits payable to or for those dependants, would equal 85% of the monthly rate compensation under this Part that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability, subject to the minimum set out in paragraph (g).

- (g) the minimum allowances payable under paragraphs (a), (b) and (f) must be the allowances that would be payable if the allowances were calculated under those paragraphs in respect of a deceased worker with average earnings of \$39,261.04 per annum.

POLICY

This Item applies to a surviving spouse and children who were wholly or partly dependent on a worker's earnings at the time of the worker's death. A surviving spouse and children who were not dependent upon the worker's earnings may be entitled to compensation under Item C8-56.70.

1. Calculation of Compensation – Surviving Spouse with Two or More Children

The monthly payment for a dependent surviving spouse and two or more dependent children is calculated as follows:

- (I) The Board adds:
- (a) the monthly rate of compensation that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability, subject to the minimum provided in section 4 of this Item, and
 - (b) the following amount per month for each child beyond two in number.

January 1, 2018	—	December 31, 2018	\$355.72
January 1, 2019	—	December 31, 2019	\$364.42

If required, earlier figures may be obtained by contacting the Board.

- (II) The Board then deducts 50% of the federal benefits payable to or for the dependants from the sum determined above.

The example below describes the monthly benefits that would be payable for a dependent surviving spouse and three dependent children following the death of a worker on June 30, 2002. The worker's average net earnings were \$40,000 per year.

A. 50% of total federal benefits			
Federal benefits for surviving spouse		=	437.99
Federal benefits for children	(3 x 183.77)	=	551.31
Total federal benefits (surviving spouse and children)		=	989.30
50% of total federal benefits	50% x 989.30	=	494.65
B. Monthly permanent total disability award rate at date of death			
	90% x $\frac{40,000}{12}$	=	3,000
C. Additional child allowance under section 17			
		=	263.70
D. Total monthly benefits (B plus C)			
		=	3,263.70
Total benefit entitlement (W.C.B. and federal benefits)		=	3,263.70
E. Total W.C.B. monthly benefits payable (D less A)			
		=	2,769.05

2. Calculation of Compensation – Surviving Spouse with One Child

The monthly payment for a dependent surviving spouse with one dependent child is calculated as the difference between:

- (a) 85% of the monthly rate of compensation that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability, subject to the minimum provided in section 4 of this Item, and
- (b) 50% of the federal benefits payable to or for the dependants.

In the example described in section (1) above, monthly benefits would be payable to a dependent surviving spouse and one dependent child as follows:

A. 50% of total federal benefits			
Federal benefits for surviving spouse		=	437.99
Federal benefits for child		=	183.77
Total federal benefits		=	621.76
50% of total federal benefits	$50\% \times 621.76$	=	310.88
B. Monthly permanent total disability award rate at date of death			
	$90\% \times \frac{40,000}{12}$	=	3,000
C. 85% of permanent total disability award rate			
	$85\% \times 3,000$	=	2,550
Total benefit entitlement (W.C.B. and federal benefits)		=	2,550
D. Total W.C.B. monthly benefits payable (C less A)			
		=	2,239.12

3. Change in Federal Benefits

If the Board receives evidence of a change in a dependant's entitlement to federal benefits, the amount of federal benefits deducted from the compensation for that dependant is adjusted accordingly. For instance, if the Board receives evidence that children's benefits under the Canada Pension Plan have been terminated, the amount of federal benefits deducted from the compensation for that child will be adjusted. The adjustment takes effect as of the date of the change in federal benefits.

4. Minimum Monthly Benefits

The minimum monthly payment under this Item must not be less than the amount that would be payable if, at the date of death, the deceased worker had the following average earnings:

January 1, 2018	—	December 31, 2018	\$38,324.16
January 1, 2019	—	December 31, 2019	\$39,261.04

If required, earlier figures may be obtained by contacting the Board

**RE: Compensation on the Death of a Worker
Calculation of Compensation –
Surviving Spouse with No Children**

ITEM: C8-56.10

BACKGROUND

1. Explanatory Notes

This policy describes how compensation as a result of a worker's death is calculated for a dependent surviving spouse with no dependent children.

2. The Act

Section 1:

“surviving spouse” means a person who was a spouse of a worker when the worker died.

“invalid” means physically or mentally incapable of earning.

Section 17:

- (3) Where compensation is payable as the result of the death of a worker or of injury resulting in such death, compensation must be paid to the dependants of the deceased worker as follows:
- (c) where the dependant is a surviving spouse who, at the date of death of the worker, is 50 years of age or over, or is an invalid spouse, a monthly payment of a sum that, when combined with 50% of the federal benefits payable to or for that dependant, would equal 60% of the monthly rate of compensation under this Part that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability, but the monthly payments must not be less than \$1,177.65.
 - (d) where the dependant, at the date of death of the worker, is a surviving spouse who is not an invalid and is under the age of 50 years, and there are no dependent children, a monthly payment of a sum that, when combined with 50% of the federal benefits payable to or for that dependant, would equal the product of
 - (i) the percentage determined by subtracting 1% from 60% for each year that the age of that dependant, at the date of the death of the worker, is under 50 years, and

- (ii) the monthly rate of compensation under this Part that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability,

but the percentage determined under subparagraph (i) must not be less than 30% and the monthly payments must not be less than \$1,177.65.

- (6) Where at the date of death a spouse is not an invalid, but is suffering from a disability that results in a substantial impairment of earning capacity, the Board may, having regard to the degree of disability or the extent of impairment of earning capacity, pay the spouse a proportion of the compensation that would have been payable if the spouse had been an invalid.

POLICY

This Item applies where there are no dependent children, but there is a surviving spouse who was wholly or partly dependent upon a worker's earnings at the time of the worker's death. A surviving spouse who was not dependent upon the worker's earnings may be entitled under Item C8-56.70.

1. Meaning of "Invalid"

The term "invalid" is defined in the *Act* as "physically or mentally incapable of earning". This means the person is not capable of independently supporting himself or herself financially. A person who has a physical or mental disability, but is capable of independently supporting himself or herself financially is not an "invalid". A temporary physical or mental incapacity to earn is not sufficient to determine that a person is an "invalid".

Where at the date of death a spouse is not an invalid, but is suffering from a disability that results in a substantial impairment of earning capacity, the Board may, having regard to the degree of disability or the extent of impairment of earning capacity, pay the spouse a proportion of the compensation that would have been payable if the spouse had been an invalid.

2. Calculation of Compensation – Surviving Spouse 50 Years or Older or Invalid

The monthly payment for a surviving spouse who, at the date of the worker's death, is either:

- 50 years of age or over, or
- an invalid,

is calculated as the difference between:

- (a) 60% of the monthly rate of compensation that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability, and
- (b) 50% of the federal benefits payable to or for the surviving spouse.

The monthly payment is subject to the minimum amount provided in section 5 of this Item.

3. Calculation of Compensation – Surviving Spouse under 50 Years

The monthly payment for a surviving spouse who, at the date of the worker's death, is not an invalid and is under the age of 50 years is calculated as follows:

- (I) The Board multiplies:
 - (a) the percentage determined by subtracting one percentage point from 60%, to a minimum of 30%, for each year that the age of the surviving spouse, at the date of the worker's death, is under 50 years, and
 - (b) the monthly rate of compensation that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability.
- (II) The Board then deducts 50% of the federal benefits payable to or for the surviving spouse from the product determined above.

The monthly payment is subject to the minimum amount provided in section 5 of this Item.

When determining the percentage under (I)(a) above, the Board does not round up the age of the surviving spouse to the nearest whole number. For instance, a surviving spouse who is 35 years and 11 months is considered 35, not 36, for the purpose of determining the percentage to use in establishing benefits.

The example below describes the monthly benefits that would be payable for a dependent surviving spouse who, at the date of the worker's death, has no children and is 35 years old. The worker, whose death occurred on June 30, 2002, had average net earnings of \$40,000 per year.

A. 50% of federal benefits

Federal benefits for surviving spouse	=	437.99
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50% of federal benefits	$50\% \times 437.99$	=	219
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B. Determination of percentage based on the surviving spouse's age

50 - 35	=	15%
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Relevant percentage	$60\% - 15\%$	=	45%
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C. Monthly permanent total disability award rate at date of death

$90\% \times \frac{40,000}{12}$	=	3,000
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D. 45% of permanent total disability award rate

$45\% \times 3,000$	=	1,350
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Total benefit entitlement (W.C.B. and federal benefits)	=	1,350
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E. Total W.C.B. monthly benefits payable (D less A)

=	1,131
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4. Change in Federal Benefits

If the Board receives evidence of a change in the entitlement of a dependent surviving spouse to federal benefits, the amount of federal benefits deducted from the compensation for that dependant is adjusted accordingly. The adjustment takes effect as of the date of the change in federal benefits.

5. Minimum Monthly Benefits

The minimum monthly payment for a dependent surviving spouse under this Item is as follows:

January 1, 2018	—	December 31, 2018	\$1,149.55
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January 1, 2019	—	December 31, 2019	\$1,177.65
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If required, earlier figures may be obtained by contacting the Board.

**RE: Compensation on the Death of a Worker
Calculation of Compensation – Children****ITEM: C8-56.40**

BACKGROUND

1. Explanatory Notes

This policy describes how compensation as a result of a worker's death is calculated for dependent children.

2. The Act

Section 1:

“surviving spouse” means a person who was a spouse of a worker when the worker died.

Section 17:

- (3) Where compensation is payable as the result of the death of a worker or of injury resulting in such death, compensation must be paid to the dependants of the deceased worker as follows:
- (f) where there is no surviving spouse eligible for monthly payments under this section, and
 - (i) the dependant is a child, a monthly payment of a sum that, when combined with 50% of the federal benefits to or for that child, would equal 40% of the monthly rate of compensation under this Part that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability;
 - (ii) the dependants are 2 children, a monthly payment of a sum that, when combined with 50% of the federal benefits payable to or for those children, would equal 50% of the monthly rate of compensation under this Part that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability; or
 - (iii) the dependants are 3 or more children, a monthly payment of a sum that, when combined with 50% of the federal benefits payable to or for those children, would equal the total of

- (A) 60% of the monthly rate of compensation under this Part that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability; and
- (B) \$364.42 per month for each child beyond 3 in number,

subject, in all cases, to the minimum set out in paragraph (g).

- (g) the minimum allowances payable under paragraphs (a), (b) and (f) must be the allowances that would be payable if the allowances were calculated under those paragraphs in respect of a deceased worker with average earnings of \$39,261.04 per annum.

POLICY

Children who were not wholly or partly dependent on the worker's earnings at the time of the worker's death are not entitled to compensation under this Item. They may, however, be entitled under Item C8-56.70.

1. Calculation of Compensation – Where there is a Surviving Spouse

Where there is a surviving spouse eligible for periodic benefits, the children's benefits are calculated in conjunction with those of the surviving spouse under Items C8-56.00, C8-56.20 or C8-56.30. With one exception, this is so whether the children live with the surviving spouse or not. Where they live apart, the apportionment provisions described in Item C8-58.00 may be applied to the benefits. The exception involves item C8-56.20, which applies to children only when they are living with the separated spouse at the date of the worker's death.

Where there is a surviving spouse and a child or children, and the surviving spouse subsequently dies, benefits for the dependent children are recalculated under Item C8-57.00.

2. Calculation of Compensation – Where there is no Surviving Spouse

Where there is no surviving spouse or common law spouse eligible for monthly payments under section 17 of the *Act*, benefits for any dependent children are calculated as described below.

2.1 One Dependent Child

The monthly payment for one dependent child is calculated as the difference between:

- (a) 40% of the monthly rate of compensation that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability; and
- (b) 50% of the federal benefits payable to or for that child.

2.2 Two Dependent Children

The monthly payment for two dependent children is calculated as the difference between:

- (a) 50% of the monthly rate of compensation that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability; and
- (b) 50% of the federal benefits payable to or for those children.

2.3 Three or More Dependent Children

The monthly payment for three or more dependent children is calculated as follows:

- (I) The Board adds:
 - (a) 60% of the monthly rate of compensation that would have been payable if the deceased worker had, at the date of death, sustained a permanent total disability; and
 - (b) the following amount per month for each child beyond three in number:

January 1, 2018	—	December 31, 2018	\$355.72
January 1, 2019	—	December 31, 2019	\$364.42

If required, earlier figures may be obtained by contacting the Board.

- (II) The Board then deducts 50% of the federal benefits payable to or for those children from the sum determined above.

3. Change in Federal Benefits

If the Board receives evidence of a change in a dependant child's entitlement to federal benefits, the amount of federal benefits deducted from the compensation for that child is

adjusted accordingly. For instance, if the Board receives evidence that a child's benefits under the Canada Pension Plan have been terminated, the amount of federal benefits deducted from the compensation for that child will be adjusted. The adjustment takes effect as of the date of the change in federal benefits.

4. Minimum Monthly Benefits

The minimum monthly payment under this Item must not be less than the amount that would be payable if, at the date of death, the deceased worker had the following average earnings:

January 1, 2018	—	December 31, 2018	\$38,324.16
January 1, 2019	—	December 31, 2019	\$39,261.04

If required, earlier figures may be obtained by contacting the Board.

5. Recalculation

Benefits for dependent children are recalculated in accordance with Item C8-57.00 as each child ceases to meet the requirements, described in Item C8-53.20, to be eligible for compensation as a "child" of the deceased worker.

6. Foster Parents

Where a foster parent assumes responsibility for the care and maintenance of a deceased worker's dependent child or children, the Board may pay compensation to the foster parent and children under Item C8-56.50. If the Board pays compensation under Item C8-56.50, no compensation is provided for the child or children under this Item.

7. Commencement of Benefits

Benefits under this Item commence on the day after the date of the worker's death.

PRACTICE

For any relevant PRACTICE information, please consult the WorkSafeBC website at worksafebc.com.

EFFECTIVE DATE:
AUTHORITY:

June 30, 2002
Sections 17(3)(f) and (g) of the *Act*.

**RE: Compensation on the Death of a Worker
Calculation of Compensation –
Other Dependants and Dependent Parents**

ITEM: C8-56.60

BACKGROUND

1. Explanatory Notes

This policy describes the calculation of compensation for “other dependants” and dependent parents of a deceased worker.

2. The Act

Section 17:

- (3) Where compensation is payable as the result of the death of a worker or of injury resulting in such death, compensation must be paid to the dependants of the deceased worker as follows:
 - (h) where there is
 - (i) no dependent spouse or child entitled to compensation under this section, but a worker leaves other dependants, a sum reasonable and proportionate to the pecuniary loss suffered by those dependants by reason of the death, to be determined by the Board, but not exceeding in the whole \$644.99 per month for life or a lesser period as determined by the Board; or
 - (ii) a dependent spouse, or a dependent child or children, entitled to compensation under this section, but not a spouse and child or children, and, in addition, the worker leaves a dependent parent or parents, then, in addition to the compensation payable to the spouse or children, a sum, reasonable and proportionate to the pecuniary loss suffered by the dependent parent or parents by the death, to be determined by the Board, but not exceeding \$644.99 per month for life or a lesser period as determined by the Board.

POLICY

1. Dependent Spouse and Children

If both a dependent spouse and children of the deceased worker are eligible for benefits as a result of the worker's death, no other person is entitled to compensation for the death, other than funeral and transportation expenses under Item C8-54.00.

2. Other Dependants

Where there is neither a dependent spouse nor children entitled to benefits as a result of a worker's death, compensation is payable to "other dependants" of the deceased worker.

The term "other dependants" means any of the following members of the worker's family who were wholly or partly dependent on the worker's earnings at the time of the worker's death:

- parent(s) or stepparent(s);
- person who stood in place of a parent to the worker, whether or not the person is related to the worker;
- grandparent(s);
- child or children who do not meet the requirements under Item C8-53.10 to be eligible for compensation as a "child" of the deceased worker;
- grandchild(ren);
- stepchild or stepchildren who do not meet the requirements under Item C8-53.20 to be eligible for compensation as a "child" of the deceased worker;
- sibling(s) or half sibling(s); and
- person to whom the worker stood in place of a parent, whether or not the person is related to the worker, and who does not meet the requirements under Item C8-53.20 to be eligible for compensation as a "child" of the deceased worker.

Except in the case of parents, a member of the worker's family who is described in the above list and who was not wholly or partly dependent on the worker's earnings at the time of the worker's death is not entitled to compensation under the Act. A parent who was not wholly or partly dependent upon the worker's earnings may still be entitled to compensation under Item C8-56.70.

3. Dependent Parents

Where there is either a dependent spouse or a dependent child or children entitled to benefits as a result of a worker's death, but not a spouse and child or children, compensation is payable for the dependent parent or parents of the deceased worker.

The compensation payable to a dependent parent is in addition to the compensation payable to a dependent spouse or to a dependent child or children as a result of the worker's death.

A parent who was not wholly or partly dependent upon the worker's earnings at the time of the worker's death is not entitled to compensation under this Item. The parent may, however, be entitled to compensation under Item C8-56.70.

4. Calculation of Compensation

Compensation for a dependant under this Item is a sum determined by the Board to be reasonable and proportionate to the pecuniary loss suffered by the dependant as a result of the worker's death.

In determining the appropriate amount of compensation, the Board considers the amount of financial support that the dependant had been receiving from the worker at the date of the worker's death, or at the date of the injury resulting in death. The Board also considers the number of dependants eligible for compensation under this Item, as well as the maximum amount of compensation payable, as set out below.

The total amount of compensation payable for all dependants under this Item, taken together, must not exceed the following amount:

January 1, 2018	—	December 31, 2018	\$629.60
January 1, 2019	—	December 31, 2019	\$644.99

If required, earlier figures may be obtained by contacting the Board.

5. Commencement of Benefits

Benefits under this Item commence on the day after the date of the worker's death.

6. Duration of Benefits

Compensation under this Item may be for life or for a lesser period as determined by the Board. For instance, the worker's grandchild might have been dependent upon the worker's earnings for payment of tuition fees. In such a case, the Board may determine that benefits should be terminated when the grandchild ceases to attend school.

PRACTICE

For any relevant PRACTICE information, please consult the WorkSafeBC website at worksafebc.com.

EFFECTIVE DATE:

June 30, 2002

AUTHORITY:Section 17(3)(h) of the *Act*.**CROSS REFERENCES:**Item C8-53.00, *Compensation on the Death of a Worker – Definitions – Meaning of “Dependant” and Presumptions of Dependency*;Item C8-53.20, *Compensation on the Death of a Worker – Definitions – Meaning of “Child” or “Children”*;Item C8-54.00, *Compensation on the Death of a Worker – Funeral and other Death Expenses*;Item C8-56.70, *Compensation on the Death of a Worker – Calculation of Compensation – Persons with a Reasonable Expectation of Pecuniary Benefit*.**HISTORY:**Housekeeping changes made on March 1, 2012 in accordance with amendments to the *Act*.Housekeeping amendments made on November 24, 2011 in accordance with amendments to the *Act*.Replaces policy items #59.00 and #59.10 of the *Rehabilitation Services & Claims Manual*, Volume II.**APPLICATION:**

This Item applies to the death of a worker on or after June 30, 2002.

**RE: Compensation on the Death of a Worker
Calculation of Compensation –
Persons with a Reasonable Expectation
of Pecuniary Benefit**

ITEM: C8-56.70

BACKGROUND

1. Explanatory Notes

This policy describes how compensation as a result of a worker's death is calculated for a person who, though not dependent upon the worker's earnings, had a reasonable expectation of pecuniary benefit from the worker.

2. The Act

Section 17:

(3) Where compensation is payable as the result of the death of a worker or of injury resulting in such death, compensation must be paid to the dependants of the deceased worker as follows:

(i) where

(i) no compensation is payable under the foregoing provisions of this subsection; or

(ii) the compensation is payable only to a spouse, a child or children or a parent or parents,

but the worker leaves a spouse, child or parent who, though not dependent on the worker's earnings at the time of the worker's death, had a reasonable expectation of pecuniary benefit from the continuation of the life of the worker, payments, at the discretion of the Board, to that spouse, child or children, parent or parents, but not to more than one of those categories, not exceeding \$644.99 per month for life or a lesser period determined by the Board.

POLICY

1. Persons with a Reasonable Expectation of Pecuniary Benefit

This Item applies where

- (a) no compensation is payable to a dependant of the deceased, or
- (b) the compensation is payable only to a spouse, a child or children, or a parent or parents,

but the worker leaves a spouse, child or children, or parent or parents who, though not dependent upon the worker's earnings at the time of death, had a reasonable expectation of pecuniary benefit from the continuation of the life of the worker.

A reasonable expectation of pecuniary benefit requires more than an assumption that the person would have received a financial benefit from the worker if the worker had not died. There must be objective evidence that the worker would have provided an actual monetary benefit to the spouse, child or parent if he or she had not died.

Compensation may be payable to persons with a reasonable expectation of pecuniary benefit in only one of the following categories:

- (a) spouse of the deceased worker;
- (b) child or children of the deceased worker; or
- (c) parent or parents of the deceased worker.

An application for compensation from a spouse, child or parent, on the grounds that he or she is a dependant of the deceased worker will automatically be considered under this Item if it is concluded that the person was not wholly or partly dependent upon the worker's earnings at the time of the worker's death.

2. Calculation of Compensation

Compensation under this Item is determined at the Board's discretion. However, monthly payments must not exceed the following amount:

January 1, 2018	—	December 31, 2018	\$629.60
January 1, 2019	—	December 31, 2019	\$644.99

If required, earlier figures may be obtained by contacting the Board.

Because of frequent changes in the maximum wage rate, where coverage at the maximum has been granted, the Board permits an application for personal optional protection at the “maximum wage rate” with coverage and assessment to be adjusted automatically from time to time.

Where a claim is made in respect of an injury, a disablement from an occupational disease, or a death from either cause occurring on or after January 1, 1978, the minimum amounts of compensation provided for in sections 22(2), 23(4), 29(2) and 30(2) have no application to persons who have purchased personal optional protection. (5) However, the minimum average earnings provided for in section 17(3)(g) does apply. (6)

The amount of personal optional protection purchased will be used to calculate a person’s average net earnings. Compensation will be based on 90% of the person’s average net earnings calculated as set out in policy item #71.00.

Compensation payable to persons entitled to personal optional protection is subject to the same cost of living adjustments as compensation payable to other persons.

EFFECTIVE DATE: March 18, 2003 (as to where the maximum and minimum wage rate figures may be obtained)

APPLICATION: Not applicable.

#67.30 Workers with No Earnings

Section 33.7 of the *Act* provides:

If a worker had no earnings at the time of injury, the Board must determine the amount of average earnings of a worker under section 33.1 from the date of injury in a manner that the Board considers appropriate.

This is an exception to both general rules for determining average earnings. There is no 10-week average earnings review.

Persons working without pay are not generally considered as “workers” under the *Act*. However, there are some exceptional situations of this type which are covered and for which the *Act* or the Board has specified the earnings on which compensation is to be based. These situations are described in policy items #67.31 – #67.34.

#67.31 *Volunteer Workers Admitted by the Board under Section 3(5)*

Where a person who is deemed to be a worker under section 3(5) of the *Act* is not regularly employed, and having regard to all the circumstances, including income, the Board may fix the worker's average earnings at not less than the amount set out below per week nor more than the maximum wage rate provided under section 33 of the *Act*.

January 1, 2018	—	December 31, 2018	\$135.30
January 1, 2019	—	December 31, 2019	\$138.61

If required, earlier figures may be obtained by contacting the Board.

The minimum wage set out above is subject to cost of living adjustments as described in policy item #51.20.

#67.32 *Volunteer Firefighters and Ambulance Drivers and Attendants*

The average earnings of volunteer ambulance drivers and attendants and members of fire brigades working without remuneration is deemed to be the same in amount as the average earnings in their regular employment or employments, not, however, to be less than the amount on which the employer has been assessed. (7)

In order to provide a minimum level of coverage to volunteers who have no attachment to the labour force, the employer is assessed \$75.00 per month (\$17.30 per week) for each person, unless the municipality concerned has arranged with the Board for, or pays the claimant, a higher amount. Compensation is based on this rate unless or until wages are confirmed as being lost at another job. In the latter case, the rate can be increased to the rate on the job, but the \$17.30 cannot be combined with it. If the volunteer is unemployed, but has an attachment to the labour force in the sense that the volunteer is seeking employment, wage-loss benefits are determined on the average earnings from the last regular employment. The fact that the volunteer is collecting Employment Insurance benefits confirms for compensation purposes an attachment to the labour force. The 12 months immediately preceding the volunteer's date of injury will be used to determine the level of benefits. See policy item #68.40 with respect to employment insurance income and the composition of average earnings. If a firefighter is paid wages by the fire brigade these can be combined with earnings from another job, but not to exceed the maximum wage rate.

In making reports of this nature for Income Tax purposes, the company is asserting that the principal's spouse or child did work in the business and did earn the money paid. The Board is required to consider any evidence which may show that this assertion is incorrect and to make its own determination.

However, the Board is entitled to rely upon this assertion unless there is good evidence to the contrary. Even if, upon investigation, the evidence shows that the spouse or child did not work for the company, that in itself does not mean that the payments to the spouse or child were earnings of the principal. There could be any number of other reasons why the company might make payments to the spouse or child.

In compensating the principal of a small limited company, the Board's obligations extend only to the losses suffered in the capacity of employee. Wage-loss compensation cannot be paid to reflect any detrimental effect that the injury may have on the company's business.

EFFECTIVE DATE: January 1, 2008

APPLICATION: This policy applies to the calculation of average earnings for principals with injuries that occur on or after January 1, 2008.

#69.00 MAXIMUM AMOUNT OF AVERAGE EARNINGS

Section 33(3) provides that a worker's average earnings cannot exceed the "maximum wage rate".

The *Act* contains a special procedure for determining the maximum wage rate in force in any year. Section 33(7) provides that "Prior to the end of each calendar year, the board must determine the maximum wage rate to be applicable for the following calendar year." The maximum wage rate to be determined under subsection (7) is an amount that the Board thinks represents the same relationship to the sum of \$40,000 as the annual average of wages and salaries in the province for the year preceding that in which the determination is made bears to the annual average of wages and salaries for the year 1984; and the resulting figure is rounded to the nearest \$100. (10) For the purpose of determining annual average of wages and salaries under subsection (8), the Board may use data published or supplied by Statistics Canada. (11) Prior to 1986, the *Act* referred to \$11,200 and 1972 as the factors in the formula for calculating the maximum.

For the maximum wage rates in force used to calculate temporary and permanent disability payments, see below.

	Yearly Applicable
January 1, 2018 – December 31, 2018	\$82,700.00
January 1, 2019 – December 31, 2019	\$84,800.00

If required, earlier figures may be obtained by contacting the Board.

The maximum wage rate is not subject to consumer price index adjustments. Nor can a worker who is in receipt of the current maximum compensation benefits receive the benefit of such adjustments. However, if the maximum wage rate is increased in any year, workers injured in a prior year who were limited by the maximum compensation for that year can receive the benefit of any applicable cost of living adjustments occurring after the increase. Such adjustments are calculated using the previous maximum as a base and cannot at any time increase the worker's compensation above the current maximum.

Increases in the maximum wage rate do not have the effect of increasing the existing compensation being paid to workers whose payments have been limited by the lower maximum existing in a previous year. An exception to this rule may occur when, on a reopening occurring more than three years after the injury, the Board exercises its authority under section 32 to base compensation payments on the worker's earnings at the time of the reopening. (12)

Authority to approve increases in the maximum wage rate under section 33 has been assigned to the President.

#69.10 Deduction of Permanent Disability Periodic Payments from Wage Loss

Section 31(1) provides as follows:

Where a worker is receiving compensation for a permanent or temporary disability, the worker must not receive compensation for a further or other disability in an amount that would result in the worker receiving in the aggregate compensation in excess of the maximum payable for total disability.

Where a worker is entitled to wage-loss payments at the current maximum, and is in receipt of a permanent disability award under a previous claim, the permanent disability award is deducted from the wage-loss payments. If the wage-loss payments are less than the current maximum only the amount in excess of the maximum when the permanent disability award and wage loss are added together is deducted.

RE: Clothing Allowances**ITEM: C10-82.00**

BACKGROUND

1. Explanatory Notes

This policy provides guidance on a worker's entitlement to clothing allowances.

2. The Act

Section 21:

- (1) See Item C10-72.00.

POLICY

1. GENERAL

The Board may pay the clothing allowances set out below to upper and/or lower limb amputees wearing prostheses, and to workers wearing an upper or lower limb brace, or a back brace. The amputation must be at or above the wrist, or at or above the ankle. An upper limb brace is a brace worn at or above the wrist. The brace must be either a major joint brace with rigid frame or contain rigid materials; or a hard back brace, with a rigid frame or shell.

Workers are paid a clothing allowance under one category as set out below:

	Jan. 1, 2018 – Dec. 31, 2018	Jan. 1, 2019 – Dec. 31, 2019
Upper Limb	\$348.83	\$357.36
Lower Limb	\$699.37	\$716.47
Bilateral Limb	\$699.37	\$716.47
Upper and Lower Limb	\$1,048.32	\$1,073.95

If required, earlier figures may be obtained by contacting the Board.

The Board also pays the allowance to a worker confined to a wheelchair, who is not otherwise entitled, at the upper and lower limb rate. The Board pays the allowance to a worker wearing a back brace at the upper and lower limb rate.

Effective January 1st, 2008, the Board adjusts the amounts of the clothing allowances on January 1st of each year. The Board determines the percentage change to be applied annually to these amounts by comparing the percentage change in the consumer price index for October of the previous year with the consumer price index for October of the year prior to the previous year.

The Board automatically pays the clothing allowance to a worker with an amputation at or above the wrist, or at or above the ankle. Proof is not required of the wearing of the prosthesis or prostheses, nor of the replacement, repair, or damage to clothing. In the case of braces however, the Board only pays the clothing allowance contingent on the worker's continued wearing of the apparatus as prescribed. Similarly, in the case of a worker confined to a wheelchair, the Board only pays the clothing allowance contingent on the worker's continued use of the wheelchair as prescribed.

Entitlement to the clothing allowance commences as of the date of the amputation or the worker commencing to use the brace or wheelchair. The Board makes the first payment following the initiation of the permanent disability award and this first payment includes any retroactive entitlement for prior periods of disability not previously paid. Subsequent payments are made annually.

The Board withholds payment of the clothing allowance while a worker is in prison. The Board pays the amount withheld to the worker on release, if the period in prison was less than one year. If the period in prison was more than one year, the Board does not pay the clothing allowance for each full year the worker was in prison.

EFFECTIVE DATE:

January 1, 2018

AUTHORITY:

Section 21 of the *Act*.

CROSS REFERENCES:

C10-79.00, *Health Care Supplies and Equipment*; and
C10-84.00, *Additional Benefits for Severely Disabled Workers*.

- (a) there is no reasonable explanation that would justify the worker's actions, such as unexpected illness or compelling personal reasons (e.g. a death in the family); or
- (b) the change or cancellation was due to the worker's personal choice or preference, not related to the worker's compensable or non-compensable disability.

If it is not possible for the Board to schedule transportation directly or where mileage is paid, the Board may pay a transportation allowance to the worker in advance of the travel for the expected transportation costs incurred, up to an amount the Board considers reasonable. A worker is required to reimburse the Board for the transportation allowance where:

- (a) the worker either does not attend, or does not attend in part, the health care in respect of which the transportation allowance was paid; and
- (b) the allowance cannot be applied towards the transportation at another time.

The Board may recover the amounts paid:

- for transportation booked directly,
- through the provision of a transportation allowance, and/or
- for change fees, cancellation fees, or additional costs.

The Board may recover the above amounts by treating them as an overpayment and deducting them from the worker's compensation, or the worker may reimburse the Board directly.

If direct booking or payment by way of a travel allowance is not possible, the worker generally pays transportation costs as they are incurred, and advises the Board of the amount paid. The Board then calculates the amount of transportation payable and reimburses the worker for that amount.

5. AMOUNT PAYABLE

If the worker chooses to take a mode of transportation other than the one recommended by the Board, the Board pays for the more cost effective option, which is usually bus fare, together with transportation to and from the bus terminal. In this regard, the Board may establish a schedule of rates, adjusted periodically. Otherwise, the following sections set out how the Board determines how much it will pay for transportation for a worker's receipt of health care.

5.1 Travel by Air

Where the Board considers travel by air to be the most appropriate mode of transportation for the worker, the Board pays for transportation equal to the cost of the airfare, together with the cost of transportation to and from airports.

5.2 Travel by Public Transportation

Where the Board considers travel by public transportation to be the most appropriate mode of local transportation for the worker, the Board pays for transportation equal to the actual cost of the public transportation.

Generally, the Board considers travel by public transportation the most appropriate mode of local transportation where it is available and is a reasonable means of travel for the journey to be made by the worker.

5.3 Travel by Private Vehicle

Where the Board considers travel by private vehicle to be the most appropriate mode of transportation for the worker, the Board pays for transportation based on mileage at the rate set out below:

Date	Amount Per Kilometre
January 1, 2018 – December 31, 2018	43¢
January 1, 2019 – December 31, 2019	44¢

If required, earlier figures may be obtained by contacting the Board.

Effective June 30, 2002, the Board adjusts the mileage rate annually on January 1st of each year using the percentage change in the consumer price index, rounded to the nearest cent.

5.4 Travel by Taxi

Where the Board considers travel by taxi to be the most appropriate mode of transportation for the worker, the Board pays a transportation amount equal to the actual cost of taxi fares. The Board may consider travel by taxi reasonably necessary where, given the nature and extent of the worker's compensable or pre-existing personal injury, occupational disease or mental disorder:

- (a) no other mode of transportation is appropriate for local travel; or
- (b) when travelling to a distant centre for health care, the worker:

4.2 Amounts Payable

Where the eligibility requirements are met, the Board pays a subsistence allowance for meals with reference to the full or partial per diem meal allowance rates set out below:

Date	Breakfast	Lunch	Dinner	Per Day
January 1, 2018 – December 31, 2018	\$13.17	\$16.25	\$27.96	\$57.38
January 1, 2019 – December 31, 2019	\$13.49	\$16.65	\$28.64	\$58.78

If required, earlier figures may be obtained by contacting the Board.

Effective June 30, 2002, the Board adjusts the meal allowance rates annually on January 1st of each year using the percentage change in the consumer price index.

Where meals are included in the amount the Board pays to a health care facility, the Board does not pay any additional subsistence allowances for meals.

5. INCOME LOSS

5.1 Eligibility

Where a worker who is not disabled from working loses time from work to attend Board-approved health care, and thereby incurs a loss of income, the Board may pay a subsistence allowance to compensate the worker for that income loss. These situations involve either:

- a worker who has never been declared disabled as the result of a compensable personal injury, occupational disease or mental disorder; or
- a worker who has returned to work following a period of compensable disability, but is still undergoing Board-approved health care.

When evaluating whether to pay a subsistence allowance for income loss and how much to pay, the Board takes into account whether the income loss is due to the worker's personal choice of health care provider. If it involves bypassing a closer health care provider whom the Board considers adequate, the Board may not pay any, or as much, subsistence allowance for income loss.

The Board pays a subsistence allowance for income loss where the Board determines it is unreasonable for the worker to attend health care outside of work hours. Generally, the Board does not pay a subsistence allowance for income loss if the time loss incurred is under two hours; however, the Board may pay a subsistence allowance for income loss if the worker's aggregate time loss resulting from multiple appointments results in a significant income loss.

While these payments are not wage-loss compensation, the Board applies the provisions of section 5(2) of the *Act*. As such, the Board does not pay a subsistence allowance for income loss for losses incurred on the day of the injury.

In situations where the worker is maintained on full salary by the employer and an entitlement to a subsistence allowance for income loss has arisen, the Board may pay the subsistence allowance for income loss to the employer under the terms of section 34 of the *Act*.

5.2 Amounts Payable

A subsistence allowance for income loss is equal to 90% of the worker's average net earnings for the time lost. However, it is subject to the same maximum and minimum rules that are applicable to temporary total disability benefits.

6. TEMPORARY DEPENDANT CARE DURING PERIOD OF DISABILITY

6.1 Eligibility

The Board may cover the cost of temporary dependant care during a period of disability where the Board determines that:

- (a) the costs are incurred by a worker as a result of the worker's compensable personal injury, occupational disease or mental disorder;
- (b) the costs are over and above dependant care costs the worker normally incurred prior to the compensable personal injury, occupational disease or mental disorder; and
- (c) no other suitable arrangements can be made with family, friends, or through the use of community resources.

The types of situations where the Board may pay a subsistence allowance on a temporary basis to cover dependant care costs include, but are not limited to, situations where:

- (a) the worker requires emergency treatment and must be immediately transported to a health care facility, thereby leaving dependants unattended;
- (b) the worker is required to attend Board-approved health care; or
- (c) the severity of the disability resulting from the worker's compensable personal injury, occupational disease or mental disorder temporarily prevents the worker from being able to personally provide dependant care.

due to cognitive impairment and/or safety issues caused by the compensable disability. The worker, however, can feed, groom and clothe himself or herself.

Examples of compensable disabilities that might entitle a worker to a Category 1 personal care allowance include, but are not limited to:

- moderate brain injury,
- blindness or near blindness,
- multiple amputations at the wrist or ankle,
- aphasia, and
- hemiplegia.

Category 2: The worker has restricted mobility and requires assistance with regard to bowel or bladder malfunction. The worker can feed, clothe and wash himself or herself but needs assistance in other aspects of personal care and activities of daily living.

An example of a compensable disability that might entitle a worker to a Category 2 personal care allowance is paraplegia with bowel and bladder functions impaired.

Category 3: The worker requires moderate assistance with activities of daily living. The worker requires assistance with feeding, cleansing, grooming, and dressing him or herself.

Examples of compensable disabilities that might entitle a worker to a Category 3 personal care allowance include, but are not limited to:

- severe head injury resulting in brain damage to the extent that the worker is not bedridden, but is dependent upon assistance and ongoing care; and
- quadriplegia.

Category 4: The worker is almost totally immobile and requires extensive assistance in all activities of daily living.

Examples of compensable disabilities that might entitle a worker to a Category 4 personal care allowance include, but are not limited to:

- high lesion quadriplegia; and
- severe head injuries.

Category 5: The worker is totally immobile and requires extensive assistance in all activities of daily living.

Examples of disabilities that might entitle a worker to a Category 5 personal care allowance include, but are not limited to:

- high lesion quadriplegia with ventilator dependency;

- disabilities requiring palliative care in the home;
- severe head injuries that require constant attendance and care; and
- a combination of quadriplegia and head injury.

4.1.4 Personal Care Allowance Payable at Each Category

The Board pays each category of personal care allowance as set out below:

	Category 1	Category 2	Category 3	Category 4	Category 5
January 1, 2018 – December 31, 2018					
Daily Amount	\$17.69	\$30.13	\$44.83	\$58.05	\$71.59
Monthly Amount	\$532.51	\$931.62	\$1,345.62	\$1,744.74	\$2,144.38
January 1, 2019 – December 31, 2019					
Daily Amount	\$18.12	\$30.87	\$45.93	\$59.47	\$73.34
Monthly Amount	\$545.53	\$954.39	\$1,378.52	\$1,787.39	\$2,196.80

If required, earlier figures may be obtained by contacting the Board.

Effective June 30, 2002, the Board adjusts personal care allowances annually on January 1st of each year, using the percentage change in the consumer price index.

4.2 Respite Care

Severely disabled workers in receipt of a personal care allowance may qualify for respite care.

“Respite care” is short-term, temporary care provided to a severely disabled worker to relieve the worker’s informal caregiver from providing the worker with care and assistance with his or her activities of daily living. Respite care is provided by an agency or in a facility registered to provide health care services to severely disabled workers.

The Board arranges for the respite care and makes payments directly to the agency or facility providing the care. The worker’s personal care allowance is not suspended where the duration of the respite care is for a period of up to 14 consecutive days once each calendar year.

4.3 Major Home and Vehicle Modifications

In order to promote the mobility, accessibility, safety and self-sufficiency of severely disabled workers, the Board may provide major home and vehicle modifications as discussed below. When providing major home and vehicle modifications to severely

A worker's eligibility for the independence and home maintenance allowance terminates upon the death of the worker, when the worker requires long-term care in a health care facility, or when the Board determines the worker is actually able to perform instrumental activities of daily living and/or the home maintenance activities that most other workers would have the physical capacity to do on their own.

If the worker lives in a health care facility and the Board is providing the home maintenance allowance for the spouse or child(ren) living in the family home, the Board stops paying the allowance at the earliest of:

- the spouse and/or child(ren) no longer living in the family home;
- the spouse and/or child(ren) living in the family home but no longer responsible for the maintenance activities covered by the allowance; or
- the death of the worker.

The Board adjusts the independence and home maintenance allowance annually on January 1st of each year, using the percentage change in the consumer price index.

The amount of the independence and home maintenance allowance is set out below:

Date	Monthly Amount
January 1, 2018 – December 31, 2018	\$311.92
January 1, 2019 – December 31, 2019	\$319.55

If required, earlier figures may be obtained by contacting the Board.

4.6 Extensions of Health Care Treatments and Services for Severely Disabled Workers

The Board applies the policy in Items C10-76.00, *Physicians and Qualified Practitioners*, and C10-77.00, *Other Recognized Health Care Professionals*, in determining a severely disabled worker's general entitlement to the services of a physician, qualified practitioner or other recognized health care professional.

The Board may consider it reasonable to provide routine or long-term health care to severely disabled workers, based upon the nature and extent of their compensable personal injury or occupational disease. For example, the Board may pay for physiotherapy treatments beyond the limits set out in policy.

In extending the duration of health care, the Board considers the medical evidence that the health care will provide functional, preventive, or pain management benefits.

The Board may consider it reasonable to pay for treatment by more than one other recognized health care professional at a time (for example, treatment by a physiotherapist and a massage therapist), if both types of treatment are expected to lessen the impact of the worker's compensable personal injury or occupational disease.

4.7 Palliative Care Benefit

The Board, in consultation with the worker's physician, determines a worker's eligibility for a palliative care benefit. Generally the Board gives consideration to a worker for the palliative care benefit where the worker:

- has been diagnosed with a compensable injury or occupational disease;
- has a life expectancy of less than six months due to the compensable injury or occupational disease;
- is at or below 50% on the Palliative Performance Scale; and
- consents to the focus of care for the compensable injury or occupational disease being palliative rather than treatment aimed at cure.

Examples of items or treatments the Board may pay for as a palliative care benefit include, but are not limited to, homeopathic medicines, dietary supplements, non-prescription items and non-standard or experimental services. The Board provides these items or treatments at its discretion and pays the actual costs for them. When considering whether to pay for a specific item or treatment as a palliative care benefit, the Board gives consideration to whether the item or treatment:

- places the worker at greater risk than the effects of the compensable injury or occupational disease due to adverse side effects; and
- may be provided legally in Canada and is available from an accredited source.

This provision permits the Board to transfer the costs of a claim from the class of the worker's employer to the class of another employer in certain circumstances. The requirements of such a transfer are discussed below.

#114.11 *The Amount of Compensation Awarded Must Be Substantial*

The Board has interpreted the word "substantial" as referring to a specific dollar amount. The amounts are set out below:

January 1, 2018 – December 31, 2018	\$49,298.50
January 1, 2019 – December 31, 2019	\$50,503.66

If required, earlier figures may be obtained by contacting the Board.

Effective June 30, 2002, the dollar amount will be adjusted on January 1 of each year. The percentage change in the consumer price index determined under section 25.2 of the *Act*, as described in policy item #51.20, will be used.

#114.12 *Serious Breach of Duty of Care of Another Employer Must Have Caused or Substantially Contributed to Injury*

"Duty of care" has the same meaning as it does in the law of tort. It is therefore relevant to consider what conclusions a court of common law would come to if a claim for damages for personal injury were brought by the worker against the other employer. The basic question considered is whether there was a failure to take reasonable care. The mere fact that the employer may have violated the Occupational Health and Safety Regulation is not sufficient since it often imposes strict liability.

The doctrine of vicarious liability has no application to section 10(8), and a transfer of costs is only available where the breach of duty of care consisted of acts or omissions by management personnel who can be identified as the employer, and not to cases where the breach of duty consists only of the act or omissions of other workers.

If there has been a breach of duty of care by the employer, the next question to be considered is whether it was a "serious" one. The word "serious" refers to the culpability of the employer's behaviour rather than the consequences of that behaviour. Regard will be had to the probability of injury resulting from the breach and the predictable gravity of the likely consequences of such an injury.

The fact that the worker was negligent does not necessarily mean that the employer's breach of duty did not cause or substantially contribute to the injury. Lapses of attention are a normal part of ordinary human behaviour that should be foreseen and guarded against.

#114.13 *Discretion of the Board*

The Board has a discretion where the requirements set out in policy items #114.10 – 12 are satisfied to transfer all or part of the cost of a claim. In exercising this discretion, the Board takes no account of any contributory negligence by the worker.

#114.20 **Depletion or Extinction of Industries or Classes**

Section 39(1)(b) requires the Board to “provide a reserve in aid of industries or classes which may become depleted or extinguished; ...”

Employers may apply to have the costs of a claim transferred from their class to that fund. This provision is very rarely used.

#114.30 **Disasters or Other Circumstances which Unfairly Burden a Rate Group**

Section 39(1)(d) requires the Board to “provide a reserve ... to meet the loss arising from a disaster or other circumstances which the Board considers would unfairly burden the employers in a class.”

Costs will not be charged to the fund created by section 39(1)(d) because there is an unfair burden on an individual employer. The unfair burden must be on a rate group or industry group of employers.

Each deposit account employer forms a classification unit, which is treated as a self-funded rate group by itself. This does not automatically mean that a burden on the deposit account employer is a burden on the rate group. The relief available to deposit accounts under section 39(1)(d) is limited to the same sorts of situations as for other employers.

The Federal Government does not contribute to the Accident Fund, therefore no relief of costs under this section can be made where the Federal Government is recorded as the injury employer.

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I. Introduction

The Permanent Disability Evaluation Schedule (the “Schedule”) was developed by WorkSafeBC based on consideration of expert medical opinion, current medical/scientific literature and schedules from other jurisdictions and organizations, including but not limited to various editions of the American Medical Association *Guides to the Evaluation of Permanent Impairment* (the “AMA Guides”).

As per section 23(2) of the *Act*, the Schedule is used for guidance in the measurement of partial disability under section 23(1) of the *Act*. The Schedule attributes a percentage of total disability to each of the specified disablements. For example, an amputation of the arm, middle, third of humerus, is indicated to be 65%. When that percentage rate is applied, it means that a worker will receive an award under section 23(1) based on 65% of 90% of average net earnings as determined by the *Act*.

The Schedule does not necessarily determine the final amount of the section 23(1) award. The Board may take other factors into account. Thus, the Schedule provides a guideline or starting point for the measurement of disability, rather than a fixed result (see policy item #39.10, *Permanent Disability Evaluation Schedule*).

It is not possible to list every disability in the Schedule. However, the Schedule can be used for guidance if a disability is similar to one that is listed. If a disability is not covered in the Schedule, other information regarding disability assessment may be consulted, including expert medical opinion, current medical/scientific literature and schedules from other jurisdictions and organizations.

II. Application of the Schedule

A. Amputations

In assigning a percentage of disability to any amputation, it must be assumed that the stump is structurally perfect, that it is well padded, that the scar is properly placed and that there is no undue tenderness on areas which are subject to pressure.

In the case of major limb amputations, disability ratings assigned should have regard to the type and probable usefulness of the prosthesis to which they are adaptable.

B. Age Adaptability

The percentage of total disability derived by use of the Schedule is modified by the application of an age variable. This age adaptability factor is used for workers over the age of 45 where the disability is calculated in accordance with the Schedule. The disability rating is increased by 1% of the assessed disability for each year over 45 up to a maximum of 20% of the assessed disability.

Example:

Award effective at age 55
Scheduled disability is 50% of total disability
Age adaptability factor 10% of 50% = 5% of total disability
Disability assessed at 55% of total disability

The worker's age at the effective date of the disability award is used, not the worker's age at the time of the injury.

The age adaptability factor is not applied where the Schedule provides another method of taking the worker's age into account (e.g. when rating traumatic bilateral hearing loss).

C. Enhancement

Where a worker has an additional disability which pre-existed the injury or the injury causes more than one disability, the Board, in certain situations, increases the overall percentage of disability that would otherwise be awarded. This is known as the "enhancement factor".

Enhancement is only applied to scheduled awards. An enhancement factor is not applied to non-scheduled awards, such as chronic pain.

II. Application of the Schedule

The Board applies enhancement in the following limited situations:

1. Arms

An enhancement factor is applied to disabilities on opposite sides of the body involving both arms. For example, a right wrist and a left wrist, or a left shoulder and a right elbow, etc. An enhancement factor of 50% of the lesser arm disability is added to the total of the percentages awarded for each separate arm disability.

2. Legs

An enhancement factor is applied to disabilities on opposite sides of the body involving both legs. For example, a right ankle and a left ankle, or a right ankle and a left knee, etc. An enhancement factor of 50% of the lesser leg disability is added to the total of the percentages awarded for each separate leg disability.

3. Assisted Ambulation

An enhancement factor is applied to disabilities in different parts of the body that permanently impede the worker from using required devices for assisted ambulation (e.g. a cane, walker or wheel chair). For example, disability to a right wrist and a left ankle in combination may impede the use of a cane. An enhancement factor of 50% of the lesser disability is added to the total of the percentages awarded for each separate disability.

4. Spine

An enhancement factor may be applied where disability of the spine is shown to have been enhanced by another limb disability. An enhancement factor is not applied to two or more disabilities of the spinal column in combination. A factor of 50% of the disability attributed to the spine is added. Therefore, if the disability in the back is 10%, and the sum of the other disabilities is 16%, the enhancement factor is 5% and the total disability awarded is 31%.

5. Digits

An enhancement factor is applied to disabilities involving the digits (i.e. thumb(s) and/or finger(s)) as set out in the section V. of the Schedule, "Hands".

6. Vision Disability

An enhancement factor is applied to disabilities involving the eyes, as set out in section XII, "Vision Disability".

7. Bilateral Traumatic Hearing Loss

An enhancement factor is applied to bilateral traumatic hearing loss, as set out in section XIII, "Traumatic Hearing Loss" under heading B. Bilateral Traumatic Hearing Loss. Note that an enhancement factor also applies to bilateral non-

II. Application of the Schedule

traumatic hearing loss, as required under the *Act*, see section XIV, “Non-Traumatic Hearing Loss (Schedule D/Section 7 of the *Act*)”.

D. Devaluation

Where the sum of the scheduled percentages allocated to several disabilities in the same limb exceeds their actual combined effect, a downward adjustment is required. This is known as “devaluation”.

Multiple disabilities involving one limb cannot exceed the amputation value of that limb. As a result, disabilities of the arm cannot exceed 70% and disabilities of the leg cannot exceed 65%.

These principles also apply to disabilities of the eyes, as set out in section XII, “Vision Disability”.

E. Dominant Side

Whether a permanent disability occurs in a worker’s dominant side (e.g. the right hand of a worker who is right-handed), is not a factor considered in rating permanent disability.

F. Loss of Strength

As a general rule, loss of strength is included in the disability ratings attributed to each impairment in the Schedule.

In rare cases, where the mechanical, anatomical, or pathological cause of the loss of strength is distinct from the other impairments in the Schedule, the loss of strength will be rated separately and added to other ratings in the Schedule.

For example, a loss of strength rating may be added to an amputation rating where the loss of strength results from tissue loss above the amputation site. While the amputation rating reflects any consequent loss of strength in the amputated limb, it does not reflect loss of strength caused by the tissue loss.

Loss of strength may also be rated separately and added to ratings for the following conditions:

- Miscellaneous Conditions and Surgical Procedures: Section III, V, and VI;
- Cold Intolerance: Section V. Hands;
- Osteoarthritis: Section VI. Upper Extremities; and
- Fractures of the Pelvis: Section VII. Pelvis.

II. Application of the Schedule

G. Range of Motion Method

The Schedule provides for certain permanent disabilities of the upper extremity, hands, lower extremity and the spine to be rated using the range of motion method. Under this method, disability is assessed by comparing a worker's post-injury range of motion to either the range of motion on the worker's uninjured side or scheduled normal range of motion values if there is pathology on the opposite side. Range of motion can be measured actively or passively. Active range of motion refers to the extent a joint can be moved using the muscles surrounding the joint, without assistance. Passive range of motion refers to the extent a joint can be moved by an external force. Only active range of motion measurements are used to calculate ratings in this Schedule. The Board uses the range of motion method, rather than other methods, because it allows for impairment to be objectively rated and linked to loss of function.

H. Muscle Wasting/Swelling

Muscle wasting (atrophy) and/or swelling may result in a change in size, but that change in size alone is not an indicator of disability. Any disability that may arise in connection with muscle wasting and/or swelling is reflected in the disability ratings provided for loss of strength and/or loss of range of motion.

I. Loss of Sensation in Surgical or Other Traumatic Scars

Loss of sensation in surgical or other traumatic scars is not generally significant and does not merit consideration for a disability award.

III. Upper Extremity

A. Amputations

	Percentage
Proximal, third of humerus or disarticulation at shoulder	70
Middle, third of humerus	65
Distal, third of humerus to biceps insertion	60
Insertion of biceps to middle of forearm	57
Middle of forearm to wrist.....	54

B. Immobility of Joints (Arthrodesis or Functional Ankylosis)

	Percentage
Shoulder, complete with no scapular movement (frozen shoulder)	35
Flexion.....	14
Extension.....	3.5
Abduction	7
Adduction	3.5
External Rotation.....	3.5
Internal Rotation	3.5
Shoulder, gleno-humeral fusion, scapula free.....	20
Elbow	20
Pronation and supination, complete.....	10
Pronation alone	6
Supination alone.....	4
Wrist.....	12.5
Flexion.....	4
Extension.....	4
Radial Deviation	2.25
Ulnar Deviation	2.25

III. Upper Extremity

C. Partial Loss of Range of Motion

Disability from partial loss of range of motion in the upper extremity is proportional to the amount of movement lost, applied to the complete immobility rating:

$$\frac{\text{loss of range of motion}}{\text{normal range of motion}} \times \text{immobility rating} = \text{loss of range of motion rating}$$

The following principles apply when rating partial loss of range of motion in an upper extremity:

- A loss of range of motion of five degrees or less generally does not impair a worker's earning capacity to an ascertainable degree.
- When assessing loss of range of motion in an upper extremity, there is usually a normal side for comparison. In instances when a normal side does not exist, reference is made to the normal range of motion values set out below.
- Loss of hyperextension in an unusually flexible worker does not result in a disability. The loss of range of motion in the injured extremity of an unusually flexible worker is compared with the normal range of motion values set out below.

Upper Extremity Normal Range of Motion Values

Degrees

Shoulder

Flexion.....	158
Extension.....	53
Abduction	170
Adduction	50
*Internal Rotation.....	70
*External Rotation.....	90

*Arm in abduction of 90 degrees; if unable to achieve this degree of abduction, internal and external rotation is measured, with the arms at the highest abduction available to injured shoulder bilaterally.

III. Upper Extremity

Degrees

Elbow

Flexion.....146

Extension.....0

Forearm

Pronation71

Supination84

Wrist

Flexion.....73

Extension.....71

Radial Deviation19

Ulnar Deviation33

D. Loss of Strength

This section sets out how to rate loss of strength where loss of strength is the only permanent impairment in the upper extremity or when a loss of strength is rated separately and added to other ratings in the Schedule.

To determine when loss of strength is rated separately and added to other ratings in the Schedule, see Section II, “Application of the Schedule”, under heading F. Loss of Strength.

A disability rating for loss of strength in the upper extremity is assessed per arm. Such a rating is only to be applied if there is strong, consistent, objective evidence of loss of strength. In addition, there must be a clear pathological explanation for the weakness.

This section applies to loss of strength in the upper extremities with the exception of the hands. Guidance on assessing loss of strength in the hands is provided in section V, “Hands”, under heading D. Loss of Strength.

Loss of strength in the upper extremity is assessed as follows:

III. Upper Extremity

Loss of strength	Definition	Percentage
Normal	No loss of function	0
Mild	Active movement against strong resistance	1
Moderate	Active movement against slight resistance	3
Marked	Movement against gravity	5
Complete	No power	7

E. Miscellaneous Conditions and Surgical Procedures

Unless otherwise specified, disability ratings for miscellaneous conditions and surgical procedures involving the upper extremity are added to the other applicable ratings for immobility, loss of range of motion and/or loss of strength in the affected extremity.

Percentage

Shoulder replacement arthroplasty 6.5

Elbow replacement arthroplasty 5.8

Biceps tendon rupture (with no surgical correction)

Proximal 1.5

Distal 2

If surgical repair of a biceps tendon rupture is undertaken, disability is rated based on loss of range of motion and loss of strength resulting from the accepted injury and surgical repair, and not the above values. The above ratings for biceps tendon rupture with no surgical correction include consideration of associated loss of range of motion and loss of strength.

Acromioclavicular (AC) or lateral clavicular joint resection..... 3

Distal clavicular joint resection..... 3

Sternoclavicular joint resection 3

Radial head resection (with or without prosthetic replacement) 3

Resurfacing or partial arthroplasties merit the same disability rating as a complete arthroplasty.

IV. Hand-Arm Vibration Syndrome

To measure the extent of any permanent disability resulting from hand-arm vibration syndrome, the evaluation is carried out in the following manner:

1. The vascular, sensorineural and musculoskeletal impairments of the worker are assessed in reference to the following table:

Elements	Process (Assess each hand separately)	Points Applied
Vascular Element	Assess vascular elements: blanching of fingers in cold temperature, pain, swelling, ulcers, gangrene and amputations: Distal phalange on index, middle and ring finger = 1 point each Middle phalange on index, middle and ring finger = 1 point each Proximal phalange on index, middle and ring finger = 2 points each All phalanges on little finger = 1 point All phalanges on thumb finger = 1 point Distal half of palm (top) = 1 to 2 points Proximal half of palm (bottom) = 1 point	17 points max per hand
	ADD: Double value of sum of above if there is evidence of trophic changes (i.e., ulcers)	17 points max per hand
	MAXIMUM points for Vascular element	34 points per hand
Sensorineural Element	Assess sensorineural impairment (evidence of numbness, tingling and reduced sensory perception)	2 points max per hand
	Assess manual dexterity (i.e., difficulty with buttons and writing) Additional 1 to 2 points per hand if reduction occurs	2 points max per hand
	MAXIMUM points for sensorineural element	4 points per hand
Musculoskeletal Element	Assess musculoskeletal impairment (loss of grip strength)	2 points max per hand
MAXIMUM points from vascular, sensorineural and musculoskeletal elements for each hand		40 points per hand
Add total points for both hands		

IV. Hand-Arm Vibration Syndrome

2. The worker's percentage of disability is rated using the assessment of impairment as follows:

Points	Percentage
1 – 4	1
5 – 15	2
16 – 20	4
21 – 30	6
31 – 35	8
36 – 40	10
41 and up	11 – 20

V. Hands

A. Amputation of Digits

Five hand charts are included at the end of the “Hands” section of the Schedule. These charts set out the percentages of total disability available for amputation of digits. A “digit” may be either a finger or a thumb.

Hand charts 1 and 2 set out the percentages of disability awarded in respect of an amputation of the thumb or a single finger.

Hand charts 3 to 5 set out the percentages of disability awarded for multiple finger amputations. Charts 3 to 5 include enhancement factors for multiple finger disabilities.

Where a thumb and one or more fingers are amputated, the percentage of disability for the thumb is determined and the percentage of the disability for the finger(s) is determined. An enhancement factor of 100% of the lesser of the thumb disability rating or the combined finger disability rating is then added.

The following principles apply to assessment of disability from amputation of digits:

- The amputation value of a digit includes loss of sensation at the amputation site.
- Generally, there must be shortening of the bone before an award is granted for amputation of a digit. However, complete loss of the digital pulp is considered to be equivalent to an amputation of one-quarter of the distal phalanx.
- Amputations of a phalanx or a metacarpal are assessed in fractions:
 - one-quarter loss
 - one-third loss
 - one-half loss
 - two-thirds loss
 - three-quarters loss
 - complete loss
- Less than one-quarter loss of a phalanx is not considered to be a disability, because such a loss does not usually have an impact on earning capacity.
- Greater than three-quarters loss of the phalanx is considered to be equivalent to an amputation of the whole phalanx.
- When a phalanx is partially amputated, the amputation value of the remaining phalanx is used in the calculation for any additional disability award in respect of that phalanx.

V. Hands

B. Immobility of Joints (Arthrodesis or Functional Ankylosis)

Immobility of the interphalangeal (IP) joint, metacarpophalangeal (MCP) joint or the carpometacarpal (CMC) joint of the thumb, in good functional position, is accorded one-half of the amputation value at those levels.

Immobility of the distal interphalangeal (DIP) joint, proximal interphalangeal (PIP) joint or MCP joint of a finger, in good functional position, is accorded three-quarters of the amputation value at those levels.

Immobility of a joint in poor functional position may, on a judgment basis, approach the value of an amputation.

C. Partial Loss of Range of Motion

1. General

Partial loss of range of motion in the digits is calculated as set out below under items 2 to 4.

The following principles apply to assessment of disability from partial loss of range of motion:

- A loss of range of motion of five degrees or less generally does not impair a worker's earning capacity to an ascertainable degree.
- For assessment of loss of range of motion in the finger and thumb joints, comparison is made with the corresponding joints of the opposite hand. If the latter are also abnormal or are not available, then the findings would be compared to the normal range of motion values set out in item 5 below.
- Loss of hyperextension in an unusually flexible worker does not result in a disability. The loss of range of motion in the injured digit of an unusually flexible worker would be compared with the normal range of motion values set out below.

2. Finger(s)

Partial loss of range of motion in the finger(s) is calculated as:

$$\frac{\text{loss of range of motion}}{\text{normal range of motion}} \times \frac{3}{4} \times \text{total amputation value of the joint(s)}$$

This formula is used as it is normally considered that a fused finger joint is equal to three-quarters of the value of an amputation at the same level.

V. Hands

When assessing partial loss of range of motion in more than one finger, the appropriate multiple finger chart is used to determine the amputation value of the joints concerned, thus building in any enhancement factor.

3. Thumb Only

Partial loss of range of motion in the thumb is calculated as:

$$\frac{\text{loss of range of motion}}{\text{normal range of motion}} \times \frac{1}{2} \times \text{amputation value of the joint}$$

This formula is used as it is normally considered that a fused thumb joint is equal to one-half of an amputation at the same level.

4. Thumb and Finger(s)

When assessing partial loss of range of motion in a finger and a thumb, hand charts 1 and 2 are used. An enhancement factor of 100% of the lesser of the thumb disability rating or the finger disability rating is then added.

When assessing partial loss of range of motion in the thumb (hand chart 1) and multiple fingers (hand charts 3 to 5), an enhancement factor of 100% of the lesser of the thumb disability rating or the combined finger disability rating is then added.

5. Digit Normal Range of Motion Values

		Degrees
Fingers		
DIPJ	Flexion	80
	Extension	0
PIPJ	Flexion	100
	Extension	0
MPJ	Flexion	90
	Extension	0
		Degrees
Thumb		
IPJ	Flexion	81
	Extension	0
MPJ	Flexion	53
	Extension	0
CMCJ	Flexion	15
	Extension	50
	Palmar Abduction	50

V. Hands

D. Loss of Strength

This section sets out how to rate loss of strength where loss of strength is the only permanent impairment in the hands or when a loss of strength is rated separately and added to other ratings in the Schedule.

To determine when loss of strength is rated separately and added to other ratings in the Schedule, see Section II, "Application of the Schedule", under heading F. Loss of Strength.

A disability rating for loss of strength in the hands is assessed per hand. Such a rating is only to be applied if there is strong, consistent, objective evidence of loss of strength. In addition, there must be a clear pathological explanation for the weakness.

The following formula is used to assess total percentage loss of hand strength:

$$\left(\frac{1}{3} \left(\frac{\text{pinch grip loss of strength}}{\text{normal pinch grip strength}} \right) + \left(\frac{\text{hand grip loss of strength}}{\text{normal hand grip strength}} \right) \right) \times 100 = \text{total percentage loss of strength}$$

Total percentage loss of hand strength amounts to percentage of total disability as set out in the following table:

Total Percentage Loss of Strength	Percentage (of Total Disability)
20 – 40	3
41 – 70	6
71 – 100	9

The following principles apply to rating loss of hand strength:

1. The percentage of disability for total loss of hand strength is equal to one-third of the measured pinch grip strength loss, plus 100% of the measured hand grip strength loss.
2. With unilateral strength loss, comparison is made with the uninjured side as the normal value.
3. With bilateral strength loss, comparison is made with the Table of Average Grip and Pinch Strength, attached as Appendix A.
4. Pinch grip technique employs lateral or "key" pinch grip.
5. The highest hand or pinch grip strength recorded is used in the calculations above.

V. Hands

E. Loss of Sensation

A disability rating for loss of sensation in the hands is only to be applied if there is strong, consistent, objective evidence of loss of sensation that is not taken into account by the amputation or loss of range of motion value, and not covered by peripheral nerve ratings or nerve root conditions.

For sensory loss due to peripheral nerve injury, see Section VIII, "Peripheral Nerve Conditions".

For sensory loss due to nerve root injury, see Section IX, "Nerve Root Conditions".

1. Two-Point Discrimination Sensory Loss

Two-point discrimination findings are measured on the radial and ulnar sides of a phalanx. The percentage of disability for sensory loss on each side is then assessed based on the amputation value of the most distal remaining phalanx, with reference to the applicable Hand Chart, as follows:

Rating Scale	Two Pt. Discrimination	% of Amputation Value
3	6 mm or less	0
2	7 – 15 mm	12.5
1	more than 15 mm with complete anesthesia (12.5% of amputation value if incomplete anesthesia)	25

If both radial and ulnar two-point discrimination are greater than 15 mm, sensory loss is rated at up to 50% of the amputation value of the digit distal to the site of nerve division, less any other value for the phalanx being assessed.

2. Total Sensory Loss

When the fingers lose total sensitivity, an award of up to the full amputation value of the most distal remaining phalanx may be granted.

V. Hands

F. Cold Intolerance

Where a worker has been diagnosed with cold intolerance which is associated with a compensable hand injury, a disability award for cold intolerance may be granted. Disability from cold intolerance is calculated as 50% of the total disability value of the hand for other rateable conditions (e.g. loss of range of motion, loss of strength), up to a maximum of 1% of total disability, per hand.

Note that cold intolerance is only considered to result in disability when it is associated with a hand injury, because such a condition may result in impairment of fine motor function. Cold intolerance associated with injuries to other parts of the body (e.g. the feet) can generally be managed (e.g. through the use of heated socks), and is not considered to result in disability.

G. Deformity

Percentage

Swan neck deformity of the finger, without surgical intervention 2

Digit disability from active ulnar or radial deviation:

Deviation	Degrees	% Digit Disability*
Mild	< 10	10
Moderate	10 – 30	20
Severe	> 30	30

* Multiply by the amputation value of the digit(s), using the applicable Hand Chart, to determine the percentage of total disability due to deformity.

V. Hands

Digit disability from rotational deformity:

Digit Rotational Deformity	Degrees	% Digit Disability*
Mild	< 15	20
Moderate	15 – 30	40
Severe	> 30	60

* Multiply by the amputation value of the digit(s), using the applicable Hand Chart, to determine the percentage of total disability due to deformity.

H. Miscellaneous Conditions and Surgical Procedures

Unless otherwise specified, disability ratings for miscellaneous conditions and surgical procedures involving the hands are added to the other applicable ratings for immobility, loss of range of motion, loss of strength, loss of sensation and/or deformity in the affected hand.

Percentage

Resection or prosthetic replacement of carpal bone	2
Resection or prosthetic replacement of 2 or more carpal bones	4
Rupture of the ulnar collateral ligament of the MCP joint of the thumb (e.g. gamekeeper's thumb or skier's thumb)	2.5

Carpal instability will be assessed on the basis of loss of structure and function or anatomicophysiological deficit as measured by loss of range of motion, loss of strength or structural loss.

Joint replacement value for either the MCP or CMC joint is 0.5 times the immobility rating for the joint.

V. Hands

I. Hand Charts

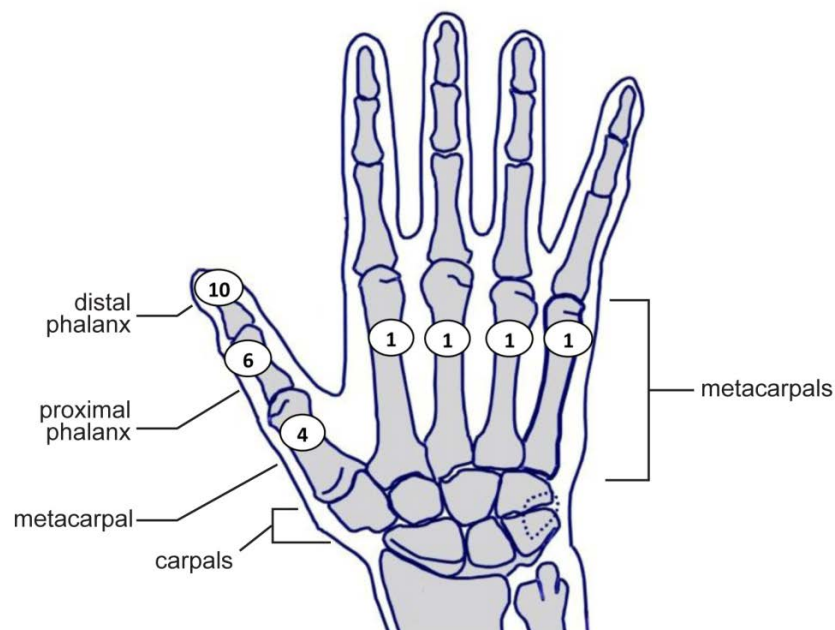
The hand charts set out the percentages of total disability available for amputation of digits.

Charts 1 and 2 set out the percentages of disability awarded in respect of an amputation of the thumb or a single finger.

Charts 3 to 5 set out the percentages of disability awarded for multiple finger amputations. These charts include enhancement factors for multiple finger disabilities.

Digits are referred to as thumb, index, long, ring and little. Metacarpals are referred to as first, second, third, fourth and fifth. A metacarpal and its digit are referred to as a ray and rays are numbered from one to five.

Percentages of disability for amputation of digits are added moving distal to proximal.



V. Hands

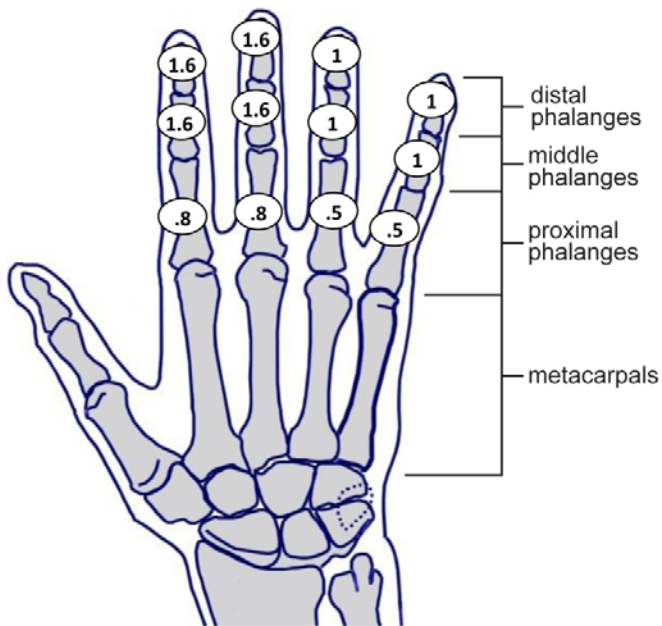


CHART 2: Single Finger

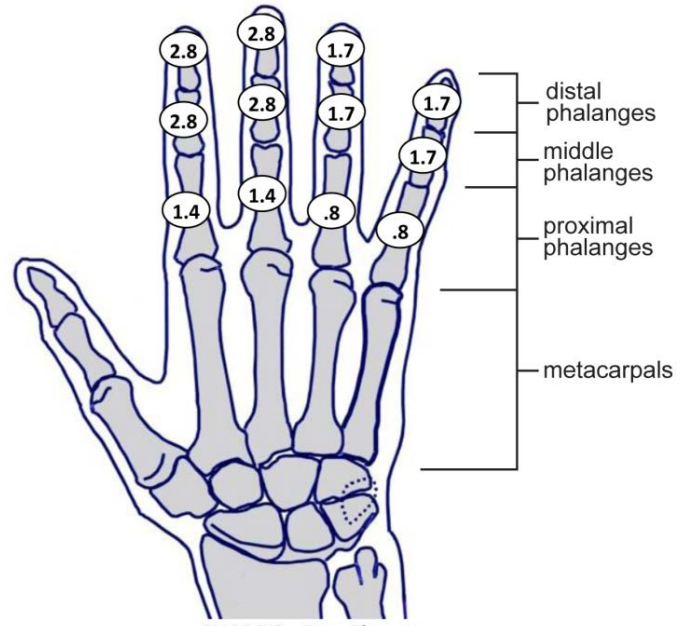


CHART 3: Two Fingers

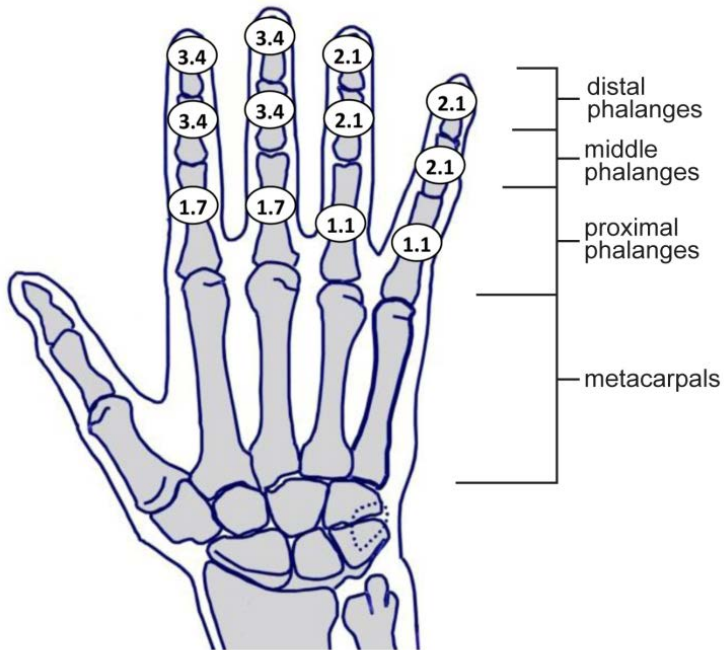


CHART 4: Three Fingers

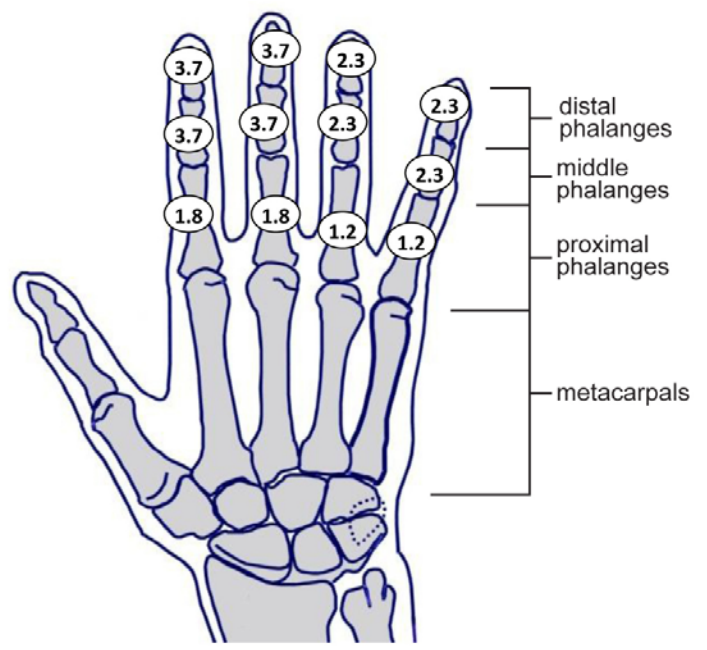


CHART 5: Four Fingers

VI. Lower Extremity

A. Amputations

	Percentage
Hip disarticulation or short stump.....	65
Thigh, site of election or end bearing (requiring false knee joint).....	50
Short below knee stump suitable for conventional B.K. prosthesis.....	45
Below knee, suitable for B.K. prosthesis (Patellar bearing)	35
Leg, at ankle end bearing (Syme's Amputation)	25
Midtarsal (Chopart's Amputation).....	20
Tarsometatarsal (Lisfranc's Amputation)	15
Toes, all toes	5
Toes, great.....	2.5
with head of metatarsal	5
Toes, great at IP joint.....	1
Toes, other than great, each.....	0.5
metatarsal, each	0.5
Toe, little with metatarsal	2

B. Immobility of Joints (Arthrodesis or Functional Ankylosis)

	Percentage
Hip	30
Flexion.....	9
Extension.....	2
Abduction	7
Adduction	3
External Rotation	6
Internal Rotation	3
Knee	25
Ankle.....	12
Foot	
Talocalcaneal arthrodesis.....	4.25
Midtarsal arthrodesis	2.75
Triple arthrodesis.....	7
Lisfranc's (tarsometatarsal) fusion.....	4
Great toe, MP joint.....	1.25
Great toe, IP joint.....	0.5

VI. Lower Extremity

C. Shortening Causing a Difference in Leg Length

	Percentage
1.5 cm or less.....	0
1.6 cm to 2.5 cm	2
2.6 cm to 3.5 cm	3
3.6 cm to 4.5 cm	4
4.6 cm to 5.5 cm	6
5.6 cm to 6.5 cm	8
6.6 cm to 7.4 cm	10
7.5 cm or more.....	15

D. Ligamentous Laxity

Ligamentous laxity is generally assessed based on a comparison to the opposite side of the body. However, if there is pre-existing pathology in the opposite side of the body, other indicators of soft tissue laxity are considered.

Percentage

Ligamentous Laxity of Knee

ACL or PCL

Grade I/Mild (5 – 9 mm).....	1.67
Grade II/Moderate (10 – 14 mm)	3.34
Grade III/Marked (15 mm or more)	5

MCL or LCL

Grade I/Mild (5 – 9 mm).....	0.83
Grade II/Moderate (10 – 14 mm)	1.66
Grade III/Marked (15 mm or more)	2.5

Ligamentous Laxity of Ankle

Medial or Lateral.....	2
------------------------	---

VI. Lower Extremity

E. Osteoarthritis

1. General

The following principles apply to assessment of osteoarthritis in a lower extremity weight bearing joint generally:

- Osteoarthritis is classified as mild, moderate, moderately severe or severe based on imaging studies and/or operative reports.
- The available disability rating for osteoarthritis is compared to the total of the available disability ratings for loss of range of motion and loss of strength in the affected limb, and the higher of the two is awarded. That percentage is then added to any percentage of disability awarded for ligamentous laxity of the limb.

Note that osteoarthritis is only considered to result in a disability where it occurs in a lower extremity weight bearing joint. Osteoarthritis in other joints is not considered to result in a disability.

2. Osteoarthritis in the Hip, Ankle or Foot

Disability from osteoarthritis in the hip, ankle or foot is rated using the following table:

Class of Osteoarthritis	Grade of Chondromalacia	Percentage of Arthrodesis Value
Mild	0 (normal) and 1 (softening of cartilage)	0
Moderate	2 (fibrillation of cartilage)	10
Moderately Severe	3 (ulceration of cartilage)	20
Severe (full thickness cartilage loss)	4 (bone showing through)	30

3. Osteoarthritis in the Knee

The following additional principles apply to assessment of disability from osteoarthritis in the knee specifically:

VI. Lower Extremity

- Osteoarthritis may exist in multiple compartments of the knee: the medial compartment, the lateral compartment and/or the patellofemoral compartment.
- Disability from osteoarthritis in the knee is assessed based on the compartment that results in the highest disability rating (not necessarily the compartment with the most severe class of osteoarthritis). Multiple ratings for osteoarthritis in multiple compartments of the knee are not added. Only the rating of the compartment that results in the highest disability rating is used.
- For example, if a worker has severe osteoarthritis of the patellofemoral joint (assessed at 3% total disability) and moderately severe osteoarthritis of the medial compartment (assessed at 5% of total disability), the worker's disability rating for osteoarthritis in the knee would be 5% of total disability.

Osteoarthritis in the knee is assessed using the following table:

Class of Osteoarthritis	Grade of Chondromalacia	Percentage (of Total Disability)		
		Medial Compartment	Lateral Compartment	Patellofemoral Compartment
Mild	0 (normal) and 1 (softening of cartilage)	0	0	0
Moderate	2 (fibrillation of cartilage)	2.5	2.5	1
Moderately Severe	3 (ulceration of cartilage)	5	5	2
Severe (full thickness cartilage loss)	4 (bone showing through)	7.5	7.5	3

VI. Lower Extremity

F. Partial Loss of Range Of Motion

Disability from partial loss of range of motion in the lower extremity is proportional to the amount of movement lost, applied to the complete immobility rating:

$$\frac{\text{loss of range of motion}}{\text{normal range of motion}} \times \text{immobility rating} = \text{loss of range of motion rating}$$

The following principles apply when rating partial loss of range of motion in a lower extremity:

- A loss of range of motion of five degrees or less generally does not impair a worker's earning capacity to an ascertainable degree.
- When assessing loss of range of motion in a lower extremity, there is usually a normal side for comparison. In instances when a normal side does not exist, reference is made to the normal range of motion values set out below.
- Loss of hyperextension in an unusually flexible worker does not result in a disability. The loss of range of motion in the injured extremity of an unusually flexible worker would be compared with the normal range of motion values set out below.

Lower Extremity Normal Range of Motion Values

	Degrees
Hip	
Flexion.....	113
Extension.....	28
Abduction	48
Adduction	31
Internal Rotation	30
External Rotation	45
Knee	
Flexion.....	134
Extension.....	0

VI. Lower Extremity

Ankle

Dorsiflexion.....	18
Plantar Flexion.....	40

Great Toe

IPJ	Flexion.....	60
	Extension.....	0
MPJ	Flexion (Plantar Flexion).....	37
	Extension (Dorsi Flexion)	63

Fraction of full movement

Midtarsal $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ or full

Subtalar $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ or full

G. Loss of Strength

This section sets out how to rate loss of strength where loss of strength is the only permanent impairment in the lower extremity or when a loss of strength is rated separately and added to other ratings in the Schedule.

To determine when loss of strength is rated separately and added to other ratings in the Schedule, see Section II, "Application of the Schedule", under heading F. Loss of Strength.

A disability rating for loss of strength in the lower extremity is assessed per leg. Such a disability rating is only to be applied if there is strong, consistent, objective evidence of loss of strength. In addition, there must be a clear pathological explanation for the weakness.

Loss of strength in the lower extremity is assessed as follows:

Strength Loss	Definition	Percentage
Normal	No loss of function	0
Mild	Active movement against strong resistance	1
Moderate	Active movement against slight resistance	3
Marked	Movement against gravity	5
Complete	No power	7

VI. Lower Extremity

H. Deformity

Percentage

Recurvatum, greater than 10 degrees for each limb	2
Valgus, greater than 10 degrees for each limb	2
Varus, greater than 10 degrees for each limb	2
Rotation, greater than 10 degrees for each limb	2

The award for valgus and/or varus angulation of the knee may be added to the award for osteoarthritis only if the deformity was caused by something other than the osteoarthritis, for example a knee injury. If the angulation is deemed to be due to the osteoarthritis, then it is taken into consideration as part of the osteoarthritis disability rating.

I. Miscellaneous Conditions and Surgical Procedures

Unless otherwise specified, disability ratings for miscellaneous conditions and surgical procedures involving the lower extremity are added to the other applicable ratings for immobility, shortening causing a difference in leg length, ligamentous laxity, osteoarthritis, loss of range of motion, loss of strength and/or loss of sensation in the affected extremity.

Active septic arthritis or pseudarthrosis is rated as 25% of arthrodesis value of the joint, in addition to any percentage granted for loss of range of motion.

Loss of an ankle reflex does not constitute disability if it is not accompanied by any other functional deficit.

Resurfacing or partial arthroplasties merit the same disability rating as a complete arthroplasty.

VI. Lower Extremity

	Percentage
Total Hip Prosthesis (including Femoral Head Prosthesis)	6
Total Knee Prosthesis or Hemiarthroplasty.....	9
Total Ankle Prosthesis/Complete Ankle Replacement.....	5
Comminuted Calcaneal Fractures.....	0 – 7
Patellectomy	
Partial	3
Total	6

Note: Section XI, “Central Nervous System Conditions”, under heading F. Stance and Gait, provides guidance on rating disability associated with stance and gait disturbances. Ratings under that heading are only to be applied if there is no other way of assessing the worker’s lower extremity disability provided in the Schedule (e.g. based on amputation value, immobility of joints, etc.).

VII. Pelvis

Compensable conditions of the pelvis include healed fractures, with or without displacement.

	Percentage
Single ramus	0
Bilateral rami	0
Unilateral superior and inferior rami	0
Ilium	0
Ischium, displaced 2.5 cm or more	10
Symphysis pubis, displaced or separated:	
With displacement of less than 2 cm	0 – 3.5
With displacement of 2 cm or more	0 – 5.5
Sacrum, into sacroiliac joint	3.5
Coccyx, non-union or resection.....	2
Fracture into acetabulum – evaluate on basis of restricted motion of hip joint.	

All fractures of the pelvis are likely to cause reduced range of motion, loss of strength and/or sensory loss. The above fracture values include consideration of such consequent loss of function.

However, if a worker has marked loss of function which would entitle the worker to a higher disability rating than the fracture value, based solely on loss of range of motion, loss of strength and/or sensory loss, the greater of the two values would be awarded.

VIII. Peripheral Nervous System Conditions

A. Criteria for Assessing Loss of Peripheral Nerve Function

The criteria for assessing loss of peripheral nerve function are as follows:

1. Sensory

Normal	No loss of function
Mild	Slight paresthesia/hypesthesia (or allodynia/hyperesthesia/dysesthesia)
Moderate	Moderate paresthesia/hypesthesia (or allodynia/hyperesthesia/dysesthesia)
Marked	As above (moderate) + loss of stereognosis + ulcers/trophic changes or marked paresthesia/hypesthesia (or allodynia/hyperesthesia/dysesthesia)
Complete	No sensation

2. Motor

Normal	No loss of function
Mild	Active movement against strong resistance
Moderate	Active movement against slight resistance
Marked	Movement against gravity
Complete	No power

A disability rating for loss of peripheral nerve function includes consideration of consequent loss of range of motion unless there is an additional mechanical, anatomical or other underlying pathological reason for limitation of these functions.

Note: A disability rating for loss of peripheral function includes consideration of consequent loss of strength. See Section II, "Application of the Schedule", under heading F. Loss of Strength to determine when loss of strength is rated separately and added to other ratings in the Schedule.

VIII. Peripheral Nervous System Conditions

B. Table of Awards for Peripheral Nerve Conditions

(Values listed in this table are percentages of total disability)

		Sensory	Motor
Long Thoracic Nerve			
	Normal	n/a	0
	Mild	n/a	2
	Moderate	n/a	3
	Marked	n/a	4
	Complete	n/a	5
Median Nerve			
At elbow	Normal	0	0
	Mild	5	5
	Moderate	10	10
	Marked	15	15
	Complete	20	20
At wrist	Normal	0	0
	Mild	3	2
	Moderate	6	4
	Marked	9	6
	Complete	12	8
Ulnar Nerve			
At elbow	Normal	0	0
	Mild	0.75	3
	Moderate	1.5	6
	Marked	2.25	10
	Complete	3	16
At wrist	Normal	0	0
	Mild	0.6	2
	Moderate	1.2	4
	Marked	1.8	8
	Complete	2.4	10
Radial Nerve			
	Normal	0	0
	Mild	0.5	4.5
	Moderate	1	9
	Marked	1.5	13.5
	Complete	2	18

VIII. Peripheral Nervous System Conditions

		Sensory	Motor
Axillary Nerve			
	Normal	0	0
	Mild	0.15	1.35
	Moderate	0.3	2.7
	Marked	0.45	4.05
	Complete	0.6	5.4
Lateral Cutaneous Nerve of the Forearm			
	Normal	0	n/a
	Mild	0.5	n/a
	Moderate	1	n/a
	Marked	1.5	n/a
	Complete	2	n/a
Medial Cutaneous Nerve of the Forearm			
	Normal	0	n/a
	Mild	0.5	n/a
	Moderate	1	n/a
	Marked	1.5	n/a
	Complete	2	n/a
Musculocutaneous Nerve of the Brachial Plexus			
	Normal	0	0
	Mild	.5	4.5
	Moderate	1	9
	Marked	1.5	13.5
	Complete	2	18
Sciatic Nerve			
	Normal	0	0
	Mild	3	4.5
	Moderate	6	9
	Marked	9	13.5
	Complete	12	18
Femoral Nerve			
	Normal	0	0
	Mild	0.625	2.5
	Moderate	1.25	5
	Marked	1.875	7.5
	Complete	2.5	10

VIII. Peripheral Nervous System Conditions

	Sensory	Motor
Obturator Nerve		
Normal	0	0
Mild	0.625	2.5
Moderate	1.25	5
Marked	1.875	7.5
Complete	2.5	10
Saphenous Nerve		
Normal	0	n/a
Mild	1	n/a
Moderate	2	n/a
Marked	3	n/a
Complete	4	n/a
Common Peroneal Nerve (Lateral Popliteal)		
Normal	0	0
Mild	1	5
Moderate	2	10
Marked	3	15
Complete	4	20
Deep Peroneal Nerve (Anterior Tibial)		
Normal	0	0
Mild	0.2	2.5
Moderate	0.3	5
Marked	0.4	10
Complete	0.5	15
Superficial Peroneal Nerve (Musculocutaneous)		
Normal	0	0
Mild	0.4	0.5
Moderate	0.6	1
Marked	0.8	2
Complete	1	2.5
Tibial Nerve (Posterior Tibial or Medial Popliteal)		
Normal	0	0
Mild	2	3
Moderate	4	6
Marked	6	9
Complete	8	12

VIII. Peripheral Nervous System Conditions

		Sensory	Motor
Sural Nerve	Normal	0	n/a
	Mild	0.5	n/a
	Moderate	1	n/a
	Marked	1.5	n/a
	Complete	2.0	n/a
Lateral Femoral Cutaneous Nerve (Lateral Cutaneous Nerve of the Thigh)	Normal	0	n/a
	Mild	0.5	n/a
	Moderate	1	n/a
	Marked	1.5	n/a
	Complete	2.0	n/a
Posterior Cutaneous Nerve of the Thigh	Normal	0	n/a
	Mild	0.5	n/a
	Moderate	1.0	n/a
	Marked	1.5	n/a
	Complete	2.0	n/a

Infraorbital nerve sensory loss is rated at 1% of total disability.

Genitofemoral nerve injury – loss of cremasteric reflex. Loss of the cremasteric reflex does not constitute disability.

IX. Nerve Root Conditions

A. Criteria for Assessing Loss of Nerve Root Function

The criteria for assessing loss of nerve root function are as follows:

1. Sensory

Normal	No loss of function
Mild	Slight paresthesia/hypesthesia (or allodynia/hyperesthesia/dysesthesia)
Moderate	Moderate paresthesia/hypesthesia (or allodynia/hyperesthesia/dysesthesia)
Marked	As above (moderate) + loss of stereognosis + ulcers/trophic changes or marked paresthesia/hypesthesia (or allodynia/hyperesthesia/dysesthesia)
Complete	No sensation

2. Motor

Normal	No loss of function
Mild	Active movement against strong resistance
Moderate	Active movement against slight resistance
Marked	Movement against gravity
Complete	No power

A disability rating for loss of nerve root function includes consideration of consequent loss of range of motion unless there is an additional mechanical, anatomical or other underlying pathological reason for limitation of these functions.

Note: A disability rating for loss of nerve root function includes consideration of consequent loss of strength. See Section II, "Application of the Schedule", under heading F. Loss of Strength to determine when loss of strength is rated separately and added to other ratings in the Schedule.

IX. Nerve Root Conditions

B. Table of Awards for Nerve Root Conditions

(Values listed in this table are percentages of total disability)

The C4 spinal level is considered on a case-by-case basis for both sensory and motor loss.

Nerve Root		Sensory	Motor
C5	Normal	0	0
	Mild	1	4
	Moderate	2	8
	Marked	3	12
	Complete	4	16
C6	Normal	0	0
	Mild	1.5	4.5
	Moderate	3	9
	Marked	4.5	13.5
	Complete	6	18
C7	Normal	0	0
	Mild	1	5
	Moderate	2	10
	Marked	3	15
	Complete	4	20
C8	Normal	0	0
	Mild	1	6
	Moderate	2	12
	Marked	3	18
	Complete	4	24
T1	Normal	0	0
	Mild	0.5	3
	Moderate	1	6
	Marked	1.5	10
	Complete	2	14

IX. Nerve Root Conditions

		Sensory	Motor
T2	Normal	0	n/a
	Mild	0.5	n/a
	Moderate	1	n/a
	Marked	1.5	n/a
	Complete	2	n/a
T3 through T12	Normal	0	n/a
	Mild	0.125	n/a
	Moderate	0.25	n/a
	Marked	0.375	n/a
	Complete	0.5	n/a
L1	Normal	0	0
	Mild	1	3
	Moderate	2	6
	Marked	3	9
	Complete	4	12
L2	Normal	0	0
	Mild	1	3
	Moderate	2	6
	Marked	3	9
	Complete	4	12
L3	Normal	0	0
	Mild	1	3
	Moderate	2	6
	Marked	3	9
	Complete	4	12
L4	Normal	0	0
	Mild	1	3
	Moderate	2	6
	Marked	3	9
	Complete	4	12
L5	Normal	0	0
	Mild	1	5
	Moderate	2	10
	Marked	3	15
	Complete	4	20

IX. Nerve Root Conditions

		Sensory	Motor
S1	Normal	0	0
	Mild	1.5	3
	Moderate	3	6
	Marked	4.5	9
	Complete	6	12
S2 through S5*	Normal	0	0
	Mild	0.5	2
	Moderate	1	4
	Marked	1.5	6
	Complete	2	8

*any related award for urological or sexual dysfunction would be added to the sensory loss award.

C. Autonomic Dysfunction

Percentage

Horner's Syndrome 2

X. Spine

A. General

The following principles apply to assessment of disability in the spine:

- Anatomical loss or damage resulting from injury or surgery may contribute to physical disability of the spine. When anatomic and/or surgical disability is present as well as loss of range of motion of the spine, the final disability rating is based on the greater of the two.
- Range of motion of the spine is difficult to assess on a consistent basis because the joints of the spine are small, inaccessible and not externally visible. Only movement of a region of the spine can be measured; it is not possible to measure mobility of a single vertebra.
- A loss of range of motion in the spine of three degrees or less generally does not impair a worker's earning capacity to an ascertainable degree.

Total paraplegia is rated as 100% of total disability.

Total quadriplegia is rated as 100% of total disability.

A vertebrectomy merits an award equivalent to the rating for a two-level fusion, plus the rating for total collapse of the removed vertebra.

B. Cervical Spine

	Percentage
Compression fractures	
Up to 50% compression	0 – 2
Over 50% compression	2 – 4
Impairment resulting from surgical loss of intervertebral disc C1 to D1	2 per level
Ankylosis (fusion) C1 to D1 including surgical loss of intervertebral disc	3 per level
C1 Jefferson Fracture	2
Loss of range of motion	
Flexion	0 – 6
Extension	0 – 3
Lateral flexion right and left	each 0 – 2
Rotation right and left	each 0 – 4

X. Spine

Maximum disability rating for cervical spine not to exceed21

C. Thoracic Spine

Percentage

Compression fractures

Up to 50% compression 0 – 1

Over 50% compression 1 – 2

Impairment resulting from surgical loss
of intervertebral disc D1 to D12 1 per level to a max of 6

Ankylosis (fusion) D1 to D12 including
surgical loss of intervertebral disc..... 1 per level to a max of 6

Loss of Range of Motion Rotation,
Right and Left, Each 0 – 3

Maximum disability rating for thoracic spine not to exceed 6

D. Lumbar Spine

Percentage

Compression fractures to include D12

Up to 50% compression 0 – 2

Over 50% compression 2 – 4

Impairment resulting from surgical loss of
intervertebral disc D12 to S1 2 per level

Ankylosis (fusion) D12 to S1 including
surgical loss of intervertebral disc 4 per level

Loss of range of motion

Flexion 0 – 9

Extension 0 – 5

Lateral flexion, right and left each 0 – 5

Maximum disability rating for lumbar spine not to exceed 24

X. Spine

E. Spine Normal Range of Motion Values

Degrees

Cervical Spine

Flexion.....	40
Extension.....	40
Lateral Flexion.....	30
Rotation.....	60

Thoracic Spine

Rotation.....	45
---------------	----

Lumbar Spine

Flexion.....	60
Extension.....	25
Lateral Flexion.....	25

XI. Central Nervous System Conditions

A. Seizure Disorder/Episodic Loss of Consciousness

	Percentage
Grade 1 Paroxysmal disorder with predictable characteristics and unpredictable occurrence that does not limit usual activities but is a risk to the individuals or limits daily activities.....	0 – 14
Grade 2 Paroxysmal disorder that interferes with some daily activities.....	15 – 29
Grade 3 Severe paroxysmal disorder of such frequency that it limits activities to those that are supervised, protected or restricted	
AND	
Additional neurologic symptoms or signs of focal or generalized nature.....	30 – 49
Grade 4 Uncontrolled paroxysmal disorder of such severity and constancy that it severely limits the individual's daily activities	50 – 70

B. Cranial Nerves

	Percentage
Cranial nerve I (olfactory) anosmia	3
Cranial nerve II – See Section XII of the Schedule, “Vision Disability”, regarding visual acuity and visual field assessment	
Cranial nerve III, IV & VI (optic, oculomotor, trochlear, and abducens nerves) – See Section XII of the Schedule, “Vision Disability”, regarding diplopia, mydriasis and myosis	
Cranial nerve V (trigeminal nerve)	
Unilateral sensory loss	0 – 10
Unilateral motor loss.....	0 – 5

XI. Central Nervous System Conditions

Cranial nerve VII (facial nerve)

Percentage

Grade 1	Complete loss of taste on anterior tongue and/or mild unilateral facial weakness	0 – 4
Grade 2	Mild to moderate bilateral facial weakness and/or severe unilateral facial paralysis with 75% or greater facial involvement and with inability to control eyelid closure	5 – 19
Grade 3	Severe bilateral facial paralysis with 75% or greater facial involvement and with inability to control eyelid closure.....	20 – 45

Cranial nerve VIII – See Sections XIII, “Traumatic Hearing Loss”, XIV, “Non-Traumatic Hearing Loss (Schedule D/Section 7 of the *Act*)”, and XV, “Ear Nose and Throat Conditions”.

Cranial nerves IX, X and XII (glossopharyngeal, vagus and hypoglossal nerves)

Grade 1	Mild dysarthria, dystonia, or dysphagia with choking on liquids or semisolid food.....	0 – 14
Grade 2	Moderately severe dysarthria or dysphagia with hoarseness, nasal regurgitation, and aspiration of liquids or semisolid foods.....	15 – 39
Grade 3	Severe inability to swallow or handle oral secretions without choking, with need for assistance and suctioning	40 – 60

Cranial nerve XI (spinal accessory nerve), complete paralysis of:

Sternocleidomastoid

Unilateral	3
Bilateral	7.5

Trapezius

Unilateral	5
Bilateral	12.5

XI. Central Nervous System Conditions

C. Neurological Urinary Bladder Control

	Percentage
Grade 1 Individual has some degree of voluntary control but is impaired by urgency or intermittent incontinence.....	0 – 9
Grade 2 Individual has good bladder reflex activity limited capacity, and intermittent emptying without voluntary control.....	10 – 24
Grade 3 Individual has poor bladder reflex activity intermittent dribbling, and no voluntary control.....	25 – 39
Grade 4 Individual has no reflex or voluntary control of bladder	40 – 60

D. Neurological Anorectal Conditions

	Percentage
Grade 1 Individual has reflex regulation but only limited voluntary control.....	0 – 19
Grade 2 Individual has reflex regulation but no voluntary control	20 – 39
Grade 3 Individual has no reflex regulation or voluntary control	40 – 50

E. Neurological Sexual Conditions

Note that any related award for urological or sexual dysfunction would be added to the sensory loss award for S2 through S5.

	Percentage
Grade 1 Sexual functioning is possible, but with varying degrees of difficulty with erection or ejaculation in men, or lack of awareness, excitement, or lubrication in either sex	0 – 9
Grade 2 Reflex sexual functioning is possible, but there is no awareness	10 – 19
Grade 3 No sexual functioning is possible	20

XI. Central Nervous System Conditions

F. Stance and Gait

A disability rating specifically for stance and gait is only to be applied if there is no other way of assessing a worker's lower extremity disability provided in the Schedule (e.g. based on amputation value, immobility of joints, etc.). Disability ratings specifically for stance and gait are not to be added to any other lower extremity disability ratings.

Disability specifically for stance and gait is assessed as follows:

	Percentage
Grade 1 Rises to standing position; walks, but has difficulty with elevations, grades, stairs, deep chairs, and long distances.....	0 – 9
Grade 2 Rises to standing position; walks some distance with difficulty and without assistance, but is limited to level surfaces.....	10 – 19
Grade 3 Rises and maintains standing position with difficulty; cannot walk without assistance	20 – 39
Grade 4 Cannot stand without help, mechanical support, and/or an assistive device	40 – 60

This table was designed to be used to rate disability associated with neurological conditions causing stance and gait disturbances that are too complex to assess by other parameters. However, it may also be used to rate disability associated with non-neurological conditions that result in stance and gait disturbances that are so complex that other means of assessment are impractical.

XI. Central Nervous System Conditions

G. Impairments of the Upper Extremities

Impairment of one upper extremity:

Percentage

Grade 1	Individual can use the involved extremity for self-care, daily activities, and holding, but has difficulty with digital dexterity	1 – 9
Grade 2	Individual can use the involved extremity for self-care, can grasp and hold objects with difficulty, but has no digital dexterity	10 – 24
Grade 3	Individual can use the involved extremity, but has difficulty with self-care activities	25 – 39
Grade 4	Individual cannot use the involved extremity for self-care or daily activities	40 – 60

Impairment of both upper extremities:

Percentage

Grade 1	Individual can use both upper extremities for grasping, and holding, but has difficulty with digital dexterity	1 – 19
Grade 2	Individual can use both upper extremities for self-care, can grasp and hold objects with difficulty, but has no digital dexterity	20 – 39
Grade 3	Individual can use both upper extremities, but has difficulty with self-care activities	40 – 79
Grade 4	Individual cannot use upper extremities	80+

XII. Vision Disability

The maximum rating for vision disability in both eyes is 100% of total disability. The maximum rating for vision disability in one eye is 16% of total disability, except in the case of enucleation or evisceration of one eye, for which a rating of 18% of total disability applies.

To assess vision disability, first evaluate disability involving the primary visual system by assessing loss of visual acuity and loss of visual field, and then making any necessary adjustments for the impact of other visual disturbances. An additional rating may also be added for disability resulting from secondary ocular conditions, subject to the maximum ratings for vision disability set out above.

A. Primary Visual System Conditions

1. Loss of Visual Acuity

Visual acuity describes the ability of the eye to perceive details in the environment. Loss of visual acuity is based on best vision obtainable after correction.

a. Loss of Visual Acuity - One Eye

Blindness or complete loss of vision in one eye is equal to a best corrected visual acuity of 20/200 or worse.

Best Corrected Visual Acuity		Percentage
Feet	Meters	
20/20	6/6	0
20/25	6/7.5	0
20/30	6/9	0
20/40	6/12	1
20/50	6/15	2
20/60	6/18	4
20/70	6/21	5
20/80	6/24	6
20/100	6/30	8
20/150	6/45	12
20/200	6/60	16
20/400	6/120	16

b. Loss of Visual Acuity - Two Eyes

As total blindness in one eye is assessed at 16% of total disability and total blindness in two eyes is equal to 100% of total disability, the value attached to total loss of visual acuity in the second eye is 84%. When assessing a bilateral

XII. Vision Disability

loss of visual acuity, each eye is first assessed separately and then their values are combined in accordance with the following chart:

	20/30	20/40	20/50	20/60	20/70	20/80	20/100	20/150	20/200
20/30	0.0	1.0	2.0	4.0	5.0	6.0	8.0	12.0	16.0
20/40	1.0	6.3	7.3	9.3	10.3	11.3	13.3	17.3	21.3
20/50	2.0	7.3	12.5	14.5	15.5	16.5	18.5	22.5	26.5
20/60	4.0	9.3	14.5	25.0	26.0	27.0	29.0	33.0	37.0
20/70	5.0	10.3	15.5	26.0	31.3	32.3	34.3	38.3	42.3
20/80	6.0	11.3	16.5	27.0	32.3	37.5	39.5	43.5	47.5
20/100	8.0	13.3	18.5	29.0	34.3	39.5	50.0	54.0	58.0
20/150	12.0	17.3	22.5	33.0	38.3	43.5	54.0	75.0	79.0
20/200	16.0	21.3	26.5	37.0	42.3	47.5	58.0	79.0	100.0

These ratings are derived from the formula:

$$\text{Combined rating} = \left(\frac{84}{16} \times \text{rating of better eye}\right) + \text{rating of poorer eye}$$

For example: If the best corrected visual acuity in the right eye is 20/50 (2% disability) and in the left eye is 20/100 (8% disability), the resultant disability is $\left(\frac{84}{16} \times 2\%\right) + 8\% = 18.5\%$.

2. Loss of Visual Field

Visual field refers to the total area in which objects can be seen when the eye focuses on a fixed point. Loss of visual field is based on best vision obtainable after correction.

a. Loss of Visual Field – One Eye

Blindness or complete loss of vision in one eye is equal to a best corrected visual field of 0.

XII. Vision Disability

Visual Field Score	Percentage
100	0
90	0
80	1
70	2
60	4
50	5
40	6
30	8
20	12
10	16
0	16

The visual field score is derived from converting the results of a visual field test using one or more of the overlay grids for *Humphrey* visual field plots.

b. Loss of Visual Field – Two Eyes

As total blindness in one eye is assessed at 16% of total disability and total blindness in two eyes is equal to 100% of total disability, the value attached to total loss of visual field in the second eye is 84%. When assessing a bilateral loss of visual field, each eye is first assessed separately and then their values are combined in accordance with the following chart:

XII. Vision Disability

	100	90	80	70	60	50	40	30	20	10	0
100	0	0	1	2	4	5	6	8	12	16	16
90	0	0	1	2	4	5	6	8	12	16	16
80	1	1	6.25	7.25	9.25	10.25	11.25	13.25	17.25	21.25	21.25
70	2	2	7.25	12.25	14.5	15.5	16.5	18.5	22.5	26.5	26.5
60	4	4	9.25	14.5	16	26	27	29	33	37	37
50	5	5	10.25	15.5	26	31.25	32.25	34.25	38.25	42.25	42.25
40	6	6	11.25	16.5	27	32.25	37.5	39.5	43.5	47.5	47.5
30	8	8	13.25	18.5	29	34.25	39.5	50	54	58	58
20	12	12	17.25	22.5	33	38.25	43.5	54	75	79	83
10	16	16	21.25	26.5	37	42.25	47.5	58	79	100	100
0	16	16	21.25	26.5	37	42.25	47.5	58	83	100	100

These ratings are derived from the formula:

$$\text{Combined rating} = \left(\frac{84}{16} \times \text{rating of better eye} \right) + \text{rating of poorer eye}$$

For example: If the best corrected visual field in the right eye is 50 (5% disability) and in the left eye is 70 (2% disability), the resultant disability is $\left(\frac{84}{16} \times 2\% \right) + 5\% = 15.5\%$.

3. Other Visual Disturbances

a. Photosensitivity/Photophobia

Percentage

- Mild photosensitivity is eliminated by
 sunglasses and/or a hat 0
- Moderate photosensitivity is present when the
 symptoms are not completely relieved with
 sunglasses or a sun shade but the individual is able
 to perform the activities of daily living and work 1 – 3
- Severe photosensitivity is present when the
 individual is unable to drive (day or night) or to
 venture into daylight without severe discomfort 4 – 8

XII. Vision Disability

b. Loss of Accommodation

Loss of accommodation is based on the worker's age at the time of injury *except* when a cataract develops, in which case it is based on the worker's age at the time of the cataract extraction. In all cases it is not adjusted (reduced) for subsequent aging. In the case of a worker having a presbyopic or accommodating implant inserted at the time of cataract surgery, no age adjusted loss of accommodation would apply.

Age Adjusted Loss of Accommodation

Age	Percentage
0 – 40	6
41 – 45	5
46 – 50	4
51 – 55	3
56 – 60	2
>60	0

c. Diplopia

Diplopia that is permanent and not correctable with prisms, lenses or surgery is assessed as:

		Percentage
Mild	Field of Binocular Single Vision > 30 degrees	1
Moderate	Field of Binocular Single Vision 21-30 degrees	2 – 9
Severe	Field of Binocular Single Vision 11-20 degrees	10 – 15
Very Severe	Field of Binocular Single Vision 0-10 degrees	16

XII. Vision Disability

d. Aniseikonia

Severe aniseikonia that cannot be corrected may result in the loss of binocularity and may be assessed in the range of 0 - 8% of total disability.

B. Secondary Ocular Conditions

Secondary ocular conditions may cause permanent disability in addition to disability associated with primary visual system conditions. Therefore, disability ratings for secondary ocular conditions may be added to any applicable disability rating for the primary visual system, subject to the maximum ratings for vision disability set out above.

	Percentage
Glaucoma	2
Complete Loss of Iris	4
Partial Loss of Iris	0 – 4
Fixed Mydriasis	2
Fixed Miosis	1
Dry eyes needing artificial tears or other treatment.....	2
Tearing due to lacrimal duct obstruction	
Mild	1
Moderate	2
Severe	3

Cataracts, aphakia, double aphakia and pseudoaphakia/pseudophakia are assessed by their resultant changes in visual acuity and age-related loss of accommodation.

XIII. Traumatic Hearing Loss

Percentage

Complete loss of hearing in one ear with no loss in the other..... 3

Complete loss of hearing in both ears..... 30

A. Unilateral Traumatic Hearing Loss

Difference in loss of hearing in decibels (dB) measured in affected ear (ANSI)	Percentage
20 – 29	1
30 – 39	2
40 or more	3

The loss of hearing due to the compensable condition expressed in dB in the first column is the difference in the arithmetic average of thresholds of hearing measured in each ear in turn by pure tone audiometry at frequencies of 500, 1,000, 2,000 and 3,000 Hz.

XIII. Traumatic Hearing Loss

B. Bilateral Traumatic Hearing Loss

Loss of hearing in decibels (dB) measured in each ear in turn (ANSI)	Percentage		
	ear most affected	PLUS	ear least affected
35 – 39	0.2		1.8
40 – 44	0.3		2.7
45 – 49	0.5		4.5
50 – 54	0.7		6.3
55 – 59	1.0		9.0
60 – 64	1.3		11.7
65 – 69	1.7		15.3
70 – 74	2.1		18.9
75 – 79	2.6		23.4
80 or more	3.0		27.0

The loss of hearing due to the compensable condition expressed in dB in the first column is the arithmetic average of thresholds of hearing measured in each ear in turn by pure tone audiometry at frequencies of 500, 1,000, 2,000 and 3,000 Hz.

After a worker's bilateral traumatic hearing loss is assessed, a deduction of 0.5 decibels is made for each year the worker's age exceeds 50 to allow for presbycusis (age-related hearing loss). This is done for each ear.

XIV. Non-Traumatic Hearing Loss (Schedule D/Section 7 of the *Act*)

Percentage

Complete loss of hearing in one ear with no loss in the other..... 3
 Complete loss of hearing in both ears..... 15

Loss of hearing in dB measured in each ear in turn (ANSI)	Percentage		
	ear most affected	PLUS	ear least affected
0 – 27	0		0
28 - 32	0.3		1.2
33 - 37	0.5		2.0
38 - 42	0.7		2.8
43 - 47	1.0		4.0
48 - 52	1.3		5.2
53 - 57	1.7		6.8
58 - 62	2.1		8.4
63 -67	2.6		10.4
68 or more	3.0		12.0

The loss of hearing in decibels in the first column is the arithmetic average of thresholds of hearing measured in each ear in turn by pure tone, air conduction audiometry at frequencies of 500, 1,000 and 2,000 Hz.

XV. Ear, Nose and Throat Conditions

For hearing impairment, see Sections XIII, “Traumatic Hearing Loss” and XIV, “Non-Traumatic Hearing Loss”.

A. Vestibular Disorders

The following table is adapted from the AMA Guides, 5th Edition.

		Percentage
Grade 1	Symptoms or signs of vestibular disequilibrium present without supporting objective findings AND Activities of daily living can be performed without assistance	0
Grade 2	Symptoms or signs of vestibular disequilibrium present with supporting objective findings AND Activities of daily living can be performed without assistance except for complex activities such as bicycle riding or certain types of demanding activities related to individual work, such as walking on girders or scaffolds	0 – 10
Grade 3	Symptoms or signs of vestibular disequilibrium present with supporting objective findings AND Activities of daily living cannot be performed without assistance except for simple activities such as self care, some household duties, walking and riding in a motor vehicle operated by another person	11 – 30
Grade 4	Symptoms and signs of vestibular disequilibrium present with supporting objective findings AND Activities of daily living cannot be performed without assistance, except self care.	31 – 60
Grade 5	Symptoms and signs of vestibular disequilibrium present with supporting objective findings AND Activities of daily living cannot be performed without assistance except self care not requiring ambulation AND Home confinement is necessary	61 – 95

XV. Ear, Nose and Throat Conditions

B. Temporomandibular Joint Dysfunction

The percentage of disability awarded for temporomandibular joint dysfunction is the higher of the rating for loss of range of motion, structural change or malocclusion.

The rating should reflect loss of movement, structural change or malocclusion, whichever is the greatest.

Temporomandibular joint dysfunction is rarely so severe that it causes disability.

1. Loss of Range of Motion

Percentage

Vertical movement loss

40 mm (total loss)	10
30 mm	7
20 mm	5
10 mm	3

Lateral movement loss

50% or more	5
Less than 50%	2.5

Protrusive movement loss

Total loss	2
------------------	---

(Range of motion losses are added for total disability values)

XV. Ear, Nose and Throat Conditions

2. Structural Change

Percentage

Recurrent subluxating or dislocating disc:

Unilateral	1
Bilateral	3

Recurrent subluxating or dislocating joint:

Unilateral	2
Bilateral	4

Meniscal repair or meniscectomy:

Unilateral	2
Bilateral	4

Meniscectomy and alloplastic implant or soft tissue:

Unilateral	5
Bilateral	10

Arthroplasty (total joint) reconstruction/resection:

Unilateral	5
Bilateral	10

Arthroscopic surgical debridement/synovectomy:

Unilateral	1.5
Bilateral	3

3. Malocclusion (Post-Traumatic)

That cannot be resolved by current orthodontic approaches	1.5
---	-----

XVI. Cardiovascular System Conditions

AP Angina pectoris

CHF Congestive heart failure

EF Ejection fraction = the fraction of blood ejected by the heart in one beat

Normal = > 0.50

Mild systolic dysfunction = $0.40 - 0.50$

Moderate systolic dysfunction = $0.30 - 0.40$

Severe systolic dysfunction = < 0.30

HF Heart failure

HR Heart rate

MET A unit of measurement of heat production by the body; the metabolic heat produced by a resting/sitting subject, being 50 kgm calories per meter of body surface per hour; energy expended during a given activity is usually expressed in multiples of this resting metabolic energy or "METS".

MI Myocardial infarction

VT Ventricular tachycardia

XVI. Cardiovascular System Conditions

A. Coronary Artery Disease

		Percentage
Grade 1	Equivocal history of angina pectoris (AP) and angiography shows less than 50% reduction of cross-sectional area of coronary artery with normal EF	0 – 9
Grade 2	History of MI or AP documented by appropriate laboratory studies, with no symptoms with daily activity or moderately heavy exertion (functional class I) AND May require moderate dietary adjustment or medication to prevent AP or remain free of signs and symptoms of CHF AND Able to exercise on treadmill or cycle ergometer to obtain H.R. 90% of predicted max. without significant ST segment shift, VT, or hypertension; may be omitted if unable to perform METS >7 OR Recovered from coronary artery surgery or angioplasty, remains asymptomatic during daily activities and able to exercise as noted above. If taking beta-adrenergic blocking agent, should walk on treadmill to cause energy expenditure of at least 7 METS as substitute for target HR	10 – 29
Grade 3	History of MI documented by appropriate laboratory studies, or AP documented by changes on resting or exercise ECG, or radioisotope study suggestive of ischemia OR Either fixed or dynamic focal obstruction of at least 50% of coronary artery on angiography and function testing AND Requires moderate dietary adjustment or drugs to prevent frequent angina or to remain free of symptoms and signs of CHF but may develop AP after moderately heavy physical exertion (Functional Class II); METS > 5 but < 7. OR	30 – 49

XVI. Cardiovascular System Conditions

Has recovered from coronary artery surgery or angioplasty, continues to require treatment and has symptoms as described above.

Grade 4 History of MI documented by appropriate laboratory studies or AP documented by changes on resting ECG or radioisotope study highly suggestive of myocardial ischemia 50 – 100

OR

Either fixed or dynamic focal obstruction of at least 50% of one or more coronary arteries demonstrated by angiography and function testing

AND

Requires moderate dietary adjustments or drugs to prevent AP or to remain free of symptoms and signs of CHF but continues to develop symptoms of AP or CHF during ordinary daily activities (Functional Class III or IV); ETS < 5

OR

Has recovered from coronary artery bypass surgery or angioplasty and continues to require treatment and have symptoms as noted above.

Maximum and 90% Maximum Heart Rate									
Heart Rate by Age									
		30	35	40	45	50	55	60	65
	Max	193	191	189	187	184	182	180	178
Men	90% Max	173	172	170	168	166	164	162	160
	Max	190	185	181	177	172	168	163	159
Women	90% Max	171	167	163	159	155	151	147	143

XVI. Cardiovascular System Conditions

New York Heart Association Functional Classification of Cardiac Disease

CLASS	DESCRIPTION
I	Individual has cardiac disease but no resulting limitation of physical activity; ordinary physical activity does not cause undue fatigue, palpitation, dyspnea or anginal pain.
II	Individual has cardiac disease resulting in slight limitation of physical activity; is comfortable at rest and in the performance of ordinary light, daily activities; greater than ordinary physical activity, such as heavy physical exertion, results in fatigue, palpitation, dyspnea, or anginal pain.
III	Individual has cardiac disease resulting in marked limitation of physical activity; is comfortable at rest; ordinary physical activity results in fatigue, palpitation, dyspnea, or anginal pain.
IV	Individual has cardiac disease resulting in inability to carry on any physical activity without discomfort; symptoms of inadequate cardiac output, pulmonary congestion, systemic congestion, or anginal syndrome may be present, even at rest; if any physical activity is undertaken, discomfort is increased.

XVI. Cardiovascular System Conditions

Relationship of METS and Functional Class According to Five Treadmill Protocols*

[illegible]

*Adapted from: Fox SM III, Naughton JP, Haskell WL. Physical activity and the prevention of coronary heart disease. *Ann Clin Res*. 1971;3:404-432.¹

Energy Expenditure in METS During Bicycle Ergometry*

Body Weight		Work Rate on Bicycle Ergometer, kg m ⁻¹ min ⁻¹ (Watts)													
kg (12)	(lb) (25)	75 (50)	150 (75)	300 (100)	450 (125)	600 (150)	750 (175)	900 (200)	1050 (225)	1200 (250)	1350 (275)	1500 (300)	1650	1800	
20	(44)	4.0	6.0	10.0	14.0	18.0	22.0								
30	(66)	3.4	4.7	7.3	10.0	12.7	15.3		20.7	23.3					
40	(88)	3.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0					
50	(110)	2.8	3.6	5.2	6.8	8.4	10.0	11.5	13.2	14.8	16.3	18.0	19.6	21.1	
60	(132)	2.7	3.3	4.7	6.0	7.3	8.7	10.0	11.3	12.7	14.0	15.3	16.7	18.0	
70	(154)	2.6	3.1	4.3	5.4	6.6	7.7	8.8	10.0	11.1	12.2	13.4	14.0	15.7	
80	(176)	2.5	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	
90	(198)	2.4	2.9	3.8	4.7	5.6	6.4	7.3	8.2	9.1	10.0	10.9	11.8	12.6	
100	(220)	2.4	2.8	3.6	4.4	5.2	6.0	6.8	7.6	8.4	9.2	10.0	10.8	11.6	
110	(242)	2.4	2.7	3.4	4.2	4.9	5.6	6.3	7.1	7.8	8.5	9.3	10.0	10.7	
120	(264)	2.3	2.7	3.3	4.0	4.7	5.3	6.0	6.7	7.3	8.0	8.7	9.3	10.0	

*Source: American College of Sports Medicine. *Guidelines for Graded Exercise Testing and Exercise Prescription*. Philadelphia, Pa: Lea and Febiger; 1975:17.

XVI. Cardiovascular System Conditions

B. Pericardial Disease

		Percentage
Grade 1	No symptoms with normal daily activities or moderately heavy physical exertion but evidence from either physical examination or laboratory studies of pericardial disease AND Continuous treatment not required, and no signs of cardiac enlargement or of congestion of lungs or other organs OR In an individual who has had surgical removal of the pericardium or a surgical window for drainage, no adverse consequences from treatment and meets above criteria	0 – 9
Grade 2	No symptoms in performance of ordinary daily activities, but evidence from either physical examination or laboratory studies of pericardial disease AND Dietary adjustment or drugs required to keep individual free of symptoms and signs of CHF OR Has recovered from pericardiectomy and meets above criteria	10 – 29
Grade 3	Slight to moderate discomfort in performance of ordinary daily activities (Functional Class II) despite dietary or drug therapy, and has evidence of pericardial disease on physical examination or laboratory studies AND Physical signs present of increased venous pressure or laboratory evidence of constrictive physiology on echocardiographic or hemodynamic evaluation OR Has recovered from surgery to remove pericardium but continues to have symptoms, signs, and laboratory evidence described above	30 – 49
Grade 4	Symptoms on performance of ordinary daily activities (Functional Class III or IV) despite appropriate dietary restrictions or drugs, and evidence from physical examination or laboratory studies of pericardial disease	50 – 100

XVI. Cardiovascular System Conditions

AND

Has recovered from surgical pericardiectomy and continues to have symptoms, signs, and laboratory evidence described above.

C. Arrhythmias

		Percentage
Grade 1	Asymptomatic during ordinary activities and a cardiac arrhythmia is documented by ECG, or has had an isolated syncopal episode AND No documentation of three or more consecutive ectopic beats or periods of asystole > 1.5 seconds and both atrial and ventricular rates are maintained between 50 and 100 beats per minute AND No evidence of organic heart disease OR Has recovered from surgery or a catheter procedure to correct arrhythmia and above criteria are met	0 – 9
Grade 2	Asymptomatic during ordinary activities. A cardiac arrhythmia is documented by ECG, or has had an isolated syncopal episode AND Moderate dietary adjustment, use of drugs, or an artificial pacemaker required to prevent symptoms related to the arrhythmia OR Arrhythmia persists and there is organic heart disease OR Has recovered from surgery or a catheter procedure to correct arrhythmia or implantable cardioverter-defibrillator placement to treat arrhythmia and meets above criteria for impairment	10 – 29
Grade 3	Symptoms despite use of dietary or drug therapy or of an artificial pacemaker, and a cardiac arrhythmia is documented with ECG AND	30 – 49

XVI. Cardiovascular System Conditions

Is able to lead an active life and symptoms due to arrhythmia are limited to infrequent palpitations and/or episodes of light-headedness, presyncope, or temporary inadequate cardiac output

OR

Has recovered from surgery and catheter procedure, or implantable cardioverter-defibrillator placement to treat arrhythmia and meets above criteria for impairment

Grade 4	Symptoms due to documented cardiac arrhythmia that are constant and interfere with ordinary daily activities (Functional Class III or IV)	50 – 100
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OR

Frequent symptoms of inadequate cardiac output documented by ECG to be due to frequent episodes of cardiac arrhythmia

OR

Continues to have episodes of syncope that are either due to, or have a probability of being related to, arrhythmia; to fit into this category of impairment, symptoms must be present despite use of dietary therapy, drugs, or artificial pacemakers

OR

Has recovered from surgery, a catheter procedure or implantable cardioverter-defibrillator placement to treat arrhythmia and continues to have symptoms causing impairment outlined above

XVI. Cardiovascular System Conditions

D. Hypertension

		Percentage
Grade 1	Asymptomatic; stage 1 or 2 hypertension without medications OR Normal blood pressure on antihypertensive medication AND No evidence of end organ damage	0 – 9
Grade 2	Asymptomatic; stage 1 or 2 hypertension despite multiple medications OR Antihypertensive medication with any of the following: (a) Proteinuria, urinary sediment abnormalities, no renal function impairment as measured by the blood urea nitrogen (BUN) and serum creatinine (b) Definite hypertensive = changes on fundoscopic examination in arterioles, e.g. "copper" or "silver wiring", or arteriovenous crossing changes with or without hemorrhages and exudates; either abnormality suggests end-organ damage	10 – 29
Grade 3	Asymptomatic; stage 3 hypertension despite multiple medications OR Antihypertensive medication with any of the following: (a) Proteinuria, urinary sediment abnormalities, renal function impairment as measured by BUN and serum creatinine, and a decreased creatinine clearance of 20% to 50% of normal (b) L.V. hypertrophy by ECG or echocardiography but no symptoms of HF; either abnormality suggests end-organ damage	30 – 49
Grade 4	Antihypertensive medication with Stages 1 - 3 and any of the following abnormalities: (a) Proteinuria, urinary sediment abnormalities, renal function impairment as measured by BUN and serum creatinine, and a creatinine clearance < 20% of normal (b) Hypertensive cerebrovascular damage or episodic hypertensive encephalopathy LV	50 – 100

XVI. Cardiovascular System Conditions

hypertrophy systolic dysfunction, and/or signs
and symptoms of HF due to hypertension

Classification Adult Hypertension						
Blood Pressure Categories			Hypertension Categories			
Blood Pressure	Optimal	Normal	High Normal	Stage 1	Stage 2	Stage 3
Systolic	< 120	< 130	130 - 139	140 - 159	160 - 179	≥ 180
	and	and	or	or	or	or
Diastolic	< 80	< 85	85 - 89	90 - 99	100 - 109	≥ 110

E. Pulmonary Hypertension

		Percentage
Grade 1	No symptoms or signs of right HF and mild pulmonary hypertension (PAP 40-50 mm Hg) or a Doppler echocardiography derived peak tricuspid velocity of 3.0-3.5 m/sec	0 – 9
Grade 2	No symptoms or signs of right HF and moderate P.A. hypertension (PAP 51-75 mm Hg)	10 – 29
Grade 3	Moderate pulmonary hypertension (PAP > 75 mm Hg) AND Signs and symptoms of right HF OR Symptoms of mild limitation (Class II) with any degree of pulmonary hypertension	30 – 49
Grade 4	Severe pulmonary hypertension (PAP > 75 mm Hg) OR Symptoms of severe limitation (Class III or IV) with any degree of pulmonary hypertension	50 – 100

XVI. Cardiovascular System Conditions

F. Upper Extremity Peripheral Vascular Disease

		Percentage
Grade 1	Neither intermittent claudication nor pain at rest OR Only transient edema AND Physical examination not more than the following present: Loss of pulses; minimal loss of subcutaneous tissue of fingertips; calcification of arteries on x-ray; asymptomatic dilation of arteries or veins, not requiring surgery and not resulting in curtailment of activity OR Raynaud's symptoms with or without obstructive physiology (documented by finger/brachial indices of > 0.8 or low digital temperatures with decreased laser Doppler signals that do not normalize with warming of affected digits) that completely responds to lifestyle changes and/or medical therapy	0 – 4
Grade 2	Intermittent claudication on severe upper extremity usage OR Persistent edema of a moderate degree, controlled by elastic supports OR Vascular damage evidenced by a sign such as a healed, painless stump of an amputated digit showing evidence of persistent vascular disease, or a healed ulcer OR Raynaud's Phenomena with obstructive physiology (as documented by finger/brachial indices of < 0.8 or low digital temperatures with decreased laser Doppler signals that do not normalize with warming of affected digits) that incompletely responds to lifestyle changes and/or medical therapy	5 – 16
Grade 3	Intermittent claudication on mild upper extremity usage OR Marked edema that is controlled by elastic supports	17 – 27

XVI. Cardiovascular System Conditions

	OR	
	Vascular damage evidenced by healed amputation of two or more digits of one extremity with evidence of persistent vascular disease or superficial ulceration	
Grade 4	Intermittent claudication on mild upper extremity usage	28 – 35
	OR	
	Marked edema that cannot be controlled by elastic support	
	OR	
	Vascular damage as evidenced by signs such as amputation at or above the wrist, or amputation of two or more digits of both extremities with evidence of persistent vascular disease; or persistent widespread or deep ulceration involving one extremity	
Grade 5	Severe and constant pain at rest	36 – 40
	OR	
	Vascular damage evidenced by signs such as amputation at or above the wrists of both extremities, or amputation of all digits of both extremities with evidence of persistent widespread or deep ulceration involving both extremities	

G. Lower Extremity Peripheral Vascular Disease

		Percentage
Grade 1	Neither intermittent claudication nor pain at rest	0 – 4
	OR	
	Only transient edema	
	AND	
	On physical examination, not more than the following findings:	
	Loss of pulses; minimal loss of subcutaneous tissue; calcification of arteries detected by x-ray; asymptomatic dilation of arteries or veins, not requiring surgery and not resulting in curtailment of activity	
Grade 2	Intermittent claudication on severe extremity usage	5 – 16
	OR	
	Persistent edema of a moderate degree controlled by elastic supports	

XVI. Cardiovascular System Conditions

OR

Vascular damage evidenced by a sign such as a healed, painless stump of an amputated digit showing evidence of persistent vascular disease, or a healed ulcer

Grade 3	Intermittent claudication on walking as few as 25 yards and no more than 100 yards at average pace	17 – 27
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OR

Marked edema only partially controlled by elastic supports

AND

Vascular damage evidenced by a sign such as healed amputation of two or more digits of one extremity, with evidence of persistent vascular disease or superficial ulceration

Grade 4	Intermittent claudication on walking less than 25 yards, or intermittent pain at rest	28 – 35
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OR

Marked edema that cannot be controlled by elastic support

AND

Vascular damage as evidenced by signs such as healed amputation at or above an ankle or amputation of two or more digits of two extremities, with evidence of persistent vascular disease; or persistent widespread, or deep ulceration involving one extremity

Grade 5	Severe and constant pain at rest	36 – 40
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OR

Vascular damage evidenced by signs such as amputation at or above ankles of two extremities, or amputation of all digits of two or more extremities, with evidence of persistent, widespread, or deep ulceration involving two or more extremities

XVII. Digestive System Conditions

Desirable Weights for Men by Height and Body Build (indoor clothing weighing 2.3 kg [5 lb] and shoes with 2.5-cm [1-in] heels)*

Height, in (cm)	Weight, lb (kg)		
	Small Frame	Medium Frame	Large Frame
62(157)	128-134(58.0-60.7)	131-141(59.2-63.9)	138-150(62.5-67.8)
63(160)	130-136(59.0-61.7)	133-143(60.3-64.9)	140-153(63.5-69.4)
64(163)	132-138(60.0-62.7)	135-145(61.3-66.0)	142-156(64.5-71.1)
65(165)	134-140(60.8-63.5)	137-148(62.1-67.0)	144-160(65.3-72.5)
66(168)	136-142(61.8-64.6)	139-151(63.2-68.7)	146-164(66.4-74.7)
67(170)	138-145(62.5-65.7)	142-154(64.3-69.8)	149-168(67.5-76.1)
68(173)	140-148(63.6-67.3)	145-157(65.9-71.4)	152-172(69.1-78.2)
69(175)	142-151(64.3-68.3)	148-160(66.9-72.4)	155-176(70.1-79.6)
70(178)	144-154(65.4-70.0)	151-163(68.6-74.0)	158-180(71.8-81.8)
71(180)	146-157(66.1-71.0)	154-166(69.7-75.1)	161-184(72.8-83.3)
72(183)	149-160(67.7-72.7)	157-170(71.3-77.2)	164-188(74.5-85.4)
73(185)	152-164(68.7-74.1)	160-174(72.4-78.6)	168-192(75.9-86.8)
74(188)	155-168(70.3-76.2)	164-178(74.4-80.7)	172-197(78.0-89.4)
75(190)	158-172(71.4-77.6)	167-182(75.4-82.2)	176-202(79.4-91.2)
76(193)	162-176(73.5-79.8)	171-187(77.6-84.8)	181-207(82.1-93.9)

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Courtesy Statistical Bulletin, Metropolitan Life Insurance Company.

Desirable Weights for Women by Height and Body Build (indoor clothing weighing 1.4 kg [3 lb] and shoes with 2.5-cm [1-in] heels)*

Height, in (cm)	Weight, lb (kg)		
	Small Frame	Medium Frame	Large Frame
58(147)	102-111(46.2-50.2)	109-121(49.3-54.7)	118-131(53.3-59.3)
59(150)	103-113(46.7-51.3)	111-123(50.3-55.9)	120-134(54.4-60.9)
60(152)	104-115(47.1-52.1)	113-126(51.1-57.0)	122-137(55.2-61.9)
61(155)	106-118(48.1-53.6)	115-129(52.2-58.6)	125-140(56.8-63.6)
62(157)	108-121(48.8-54.6)	118-132(53.2-59.6)	128-143(57.8-64.6)
63(160)	111-124(50.3-56.2)	121-135(54.9-61.2)	131-147(59.4-66.7)
64(163)	114-127(51.9-57.8)	124-138(56.4-62.8)	134-151(61.0-68.8)
65(165)	117-130(53.0-58.9)	127-141(57.5-63.9)	137-155(62.0-70.2)
66(168)	120-133(54.6-60.5)	130-144(59.2-65.5)	140-159(63.7-72.4)
67(170)	123-136(55.7-61.6)	133-147(60.2-66.6)	143-163(64.8-73.8)
68(173)	126-139(57.3-63.2)	136-150(61.8-68.2)	146-167(66.4-75.9)
69(175)	129-142(58.3-64.2)	139-153(62.8-69.2)	149-170(67.4-76.9)
70(178)	132-145(60.0-65.9)	142-156(64.5-70.9)	152-173(69.0-78.6)
71(180)	135-148(61.0-66.9)	145-159(65.6-71.9)	155-176(70.1-79.6)
72(183)	138-151(62.6-68.4)	148-162(67.0-73.4)	158-179(71.6-81.2)

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XVII. Digestive System Conditions

A. Upper Digestive Tract Disease

		Percentage
Grade 1	Symptoms or signs of upper digestive tract disease, or anatomic loss or alteration AND Continuous treatment not required AND Maintains weight at desirable level OR No sequelae after surgical procedures	0 – 9
Grade 2	Symptoms and signs of upper digestive tract disease, or anatomic loss or alteration AND Requires appropriate dietary restrictions and drugs for control of symptoms, signs, or nutritional deficiency AND Weight loss below desirable weight does not exceed 10%	10 – 24
Grade 3	Symptoms and signs of upper digestive tract disease, or anatomic loss or alteration AND Appropriate dietary restrictions and drugs do not completely control symptoms, signs, or nutritional state OR 10%-20% weight loss below desirable weight due to upper digestive tract disorder	25 – 49
Grade 4	Symptoms and signs of upper digestive tract disease, or anatomic loss or alteration AND Symptoms uncontrolled by treatment OR Greater than 20% weight loss below the desirable weight due to upper digestive tract disorder	50 – 75

Note: Upper digestive tract = esophagus + stomach + small intestine + pancreas + liver + gall bladder

XVII. Digestive System Conditions

B. Colonic and Rectal Disorders

		Percentage
Grade 1	Symptoms and signs of colonic or rectal disease infrequent and of brief duration AND Limitation of activities, special diet or medication not required AND No systemic manifestations present and weight and nutritional state can be maintained at desirable level OR No sequelae after surgical procedures	0 – 9
Grade 2	Objective signs of colonic or rectal disease or anatomic loss or alteration AND Mild gastrointestinal symptoms with occasional disturbances of bowel unktion, accompanied by moderate pain AND Minimal restriction of diet or mild symptomatic therapy may be necessary AND No impairment of nutrition results	10 – 24
Grade 3	Objective evidence of colonic or rectal disease, or anatomic loss or alteration AND Moderate to severe exacerbations with disturbance of bowel habit accompanied by periodic or continual pain AND Restrictions of activity, special diet, and drugs required during attacks AND Constitutional manifestations (fever, anemia, or weight loss)	25 – 49
Grade 4	Objective evidence of colonic or rectal disease, or anatomic loss or alteration AND	50 – 75

XVII. Digestive System Conditions

Persistent disturbances of bowel function present at rest with severe persistent pain

AND

Complete limitation of activity, continued restriction of diet, and medication do not entirely control symptoms

AND

Constitutional manifestations (fever, weight loss, or anemia) present

OR

No prolonged remission

C. Anal Disease

		Percentage
Grade 1	Signs of organic anal disease or anatomic loss or alteration	0 – 9
	OR	
	Mild incontinence involving gas or liquid stool	
	OR	
	Anal symptoms mild, intermittent, and controlled by treatment	
Grade 2	Signs of organic anal disease or anatomic loss or alteration	10 – 19
	AND	
	Moderate but partial fecal incontinence requiring continual treatment	
	OR	
	Continual anal symptoms incompletely controlled by treatment	
Grade 3	Signs of organic anal disease or anatomic loss or alteration	20 – 35
	AND	
	Complete fecal incontinence	
	OR	
	Signs of organic anal disease and severe anal symptoms unresponsive to therapy	

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D. Liver Disease

		Percentage
Grade 1	Objective evidence of persistent liver disease; no symptoms of liver disease and no history of ascites, jaundice, or bleeding esophageal varices within 3 years AND Good nutrition and strength AND Biochemical studies indicate minimal Disturbance of function OR Primary disorders of bilirubin metabolism	0 – 14
Grade 2	Objective evidence of chronic liver disease, no liver disease symptoms and no history of ascites, jaundice or bleeding esophageal varices within 3 years AND Good nutrition and strength AND Biochemical studies indicate more severe liver damage than Grade 1	15 – 29
Grade 3	Objective evidence of progressive chronic liver disease or history of jaundice, ascites, or bleeding esophageal varices within past year AND Possibly affected nutrition and strength OR Intermittent hepatic encephalopathy	30 – 49
Grade 4	Objective evidence of progressive chronic liver disease or persistent jaundice or bleeding esophageal varices with central nervous system manifestations of hepatic insufficiency AND Poor nutritional state	50 – 95

XVII. Digestive System Conditions

E. Biliary Tree Disease

		Percentage
Grade 1	Occasional biliary tract dysfunction episode	0 – 14
Grade 2	Recurrent biliary tract impairment, irrespective of treatment	15 – 29
Grade 3	Irreparable biliary tract obstruction with recurrent cholangitis	30 – 49
Grade 4	Persistent jaundice, progressive liver disease due to common bile duct obstruction	50 – 95

XVIII. Urogenital Tract Conditions

A. Upper Urinary Tract Disease

		Percentage
Grade 1	Diminution of upper urinary tract function as evidenced by creatinine clearance of 70-90 L/24h (52-62.5 ml/min) OR Intermittent symptoms and signs of upper urinary tract dysfunction that do not require continuous treatment or surveillance	0 – 14
Grade 2	Diminution of upper urinary tract function as evidenced by creatinine clearance of 60-75 L/24h (42-52 ml/min) OR Symptoms and signs of upper urinary tract disease or dysfunction necessitate continuous surveillance and frequent treatment, although creatinine clearance is greater than 75 L/24h (52 ml/min) OR Successful renal transplantation results in marked renal function improvement OR Only one kidney is functioning (at least 15% of whole person)	15 – 34
Grade 3	Diminution of upper urinary tract function as evidenced by creatinine clearance of 40-60 L/24h (28-42 ml/min) OR Symptoms and signs of upper urinary tract disease or dysfunction are completely controlled by surgical or continuous medical treatment although creatinine clearance is 60-75 L/24h (42-52 ml/min)	35 – 59
Grade 4	Diminution of upper urinary tract function as evidenced by creatinine clearance below 40 L/24h (28 ml/min) OR Symptoms and signs of upper urinary tract disease or dysfunction persist despite surgical or continuous medical treatment although creatinine clearance is 40-60 L/24h (28-42 ml/min) OR Renal function deterioration requires either peritoneal dialysis or hemodialysis	60 – 95

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Note: Normal creatinine clearance

- males 130-200 L/24h (90-139 ml/min)
- females 115-180 L/24h (80-125 ml/min)

Note: A worker with only one functioning kidney may have normal renal function due to the efficiency of the remaining kidney; however, the normal safety factor is lost. Value for a worker with one functioning kidney loss is 15%.

B. Bladder Disorders

		Percentage
Grade 1	Clinical signs or sequelae requiring occasional treatment	0 – 5
Grade 2	Clinical signs or sequelae requiring continuing medical supervision and medication (e.g. recurring cystitis, incontinence controlled by medication)	6 – 15
Grade 3	Clinical signs or sequelae incompletely controlled with medical and surgical treatment (e.g. retention or partial intermittent incontinence)	16 – 30
Grade 4	Clinical signs or sequelae not controlled with medical and surgical treatment (e.g. total incontinence or complete urinary retention)	31 – 60

C. Urethral Disorders

	Percentage
(a) Stricture	
Grade 1 Requiring occasional dilation	0 – 5
Grade 2 Requiring dilation	6 – 10
(b) Fistula(e)	15
(c) Diverticula(e) with recurrent complications	5

XVIII. Urogenital Tract Conditions

D. Penile Disorders

		Percentage
Grade 1	Sexual function is possible but with varying degrees of difficulty with erection, ejaculation, or sensation	0 – 9
Grade 2	Sexual function possible with sufficient erection but with impaired ejaculation and sensation	10 – 19
Grade 3	No sexual function possible	20

Penile implant with good sensation lower range of Grade 2; with poor sensation upper range Grade 2.

E. Vulvar/Vaginal Disorders

		Percentage
Grade 1	Sexual relations possible, but with slight difficulty (delivery by birth canal possible)	0 – 5
Grade 2	Sexual relations possible, but difficult (limited potential for vaginal delivery)	6 – 15
Grade 3	Sexual relations impossible (vaginal delivery not possible) and symptoms not controlled by medical or surgical treatment	16 – 20

XIX. Visceral Loss/Surgical Conditions

	Percentage
Loss of kidney	15
Loss of spleen.....	10
Testicular loss	
Unilateral – without sterility	2
Unilateral – with sterility	7
Bilateral	10
Surgical diversion disorders	
Ureterointestinal	40
Ureterostomy	40
Nephrostomy	40
Esophagostomy.....	40
Gastrostomy	40
Jejunostomy	40
Ileostomy	40
Ileal pouch-anal anastomosis	40
Colostomy.....	40

Hernia – persisting, failed surgical repair or inoperable

	Unilateral	Bilateral
Mild – small size, reducible	2	6
Moderate – medium size, difficult to reduce	5	15
Severe – large size, irreducible	7	21

XX. Psychological Disability

Due to overlapping symptoms across diagnoses and their potential interactions, psychological disability awards are not made per diagnosis. All accepted psychological diagnoses are combined and rated as a whole.

A. Aphasia and Communication Disturbances

	Percentage
Mild - minimal disturbance in comprehension and production of language symbols of daily living	0 – 25
Moderate - moderate disturbance in comprehension and production of language symbols of daily living.....	30 – 70
Marked - inability to comprehend language symbols. Production of unintelligible or inappropriate language for daily activities	75 – 95
Extreme - complete inability to communicate or comprehend language symbols.....	100

B. Disturbances of Mental Status and Integrative Functioning

	Percentage
Mild - some impairment but ability remains to satisfactorily perform most activities of daily living.....	0 – 25
Moderate - impairment necessitates direction and supervision of daily living activities	30 – 70
Marked - impairment necessitates directed care under continued supervision and confinement in home or other facility.....	75 – 95
Extreme - individual is unable without supervision to care for self and be safe in any situation	100

C. Emotional (Mental) and Behavioural Disturbances

The impairment levels below relate to activities of daily living, social functioning, concentration and adaptation.

XX. Psychological Disability

Percentage

Mild - impairment levels are compatible with most useful functioning..... 0 – 25

Moderate - impairment levels are compatible with some
but not all useful functioning 30 – 70

Marked - impairment levels significantly impede useful functioning..... 75 – 95

Extreme - impairment levels preclude most useful functioning..... 100

Disability ratings greater than 0% are made in 5% increments.

XXI. Respiratory System Conditions

A Introduction

For purposes of rating, the respiratory system includes the following:

- The upper respiratory system: the nose, throat, larynx and trachea.
- The lower respiratory system: all other respiratory structures within the chest cavity, including the chest wall cage.

Lower respiratory system ratings are based on a combination of diagnosis, symptoms and the results of laboratory tests, specifically pulmonary function tests (PFT's) and imaging studies.

B. Upper Respiratory System Conditions

Percentage

Rhinitis - recurrent and unresponsive to treatment or withdrawal from exposure

- minor 1
- significant +/- ulceration 5

Ulceration - recurrent and unresponsive to treatment or withdrawal from exposure 5

Perforation of nasal septum

- Asymptomatic..... 0
- Symptomatic 2

Nasal obstruction

- unilateral minor..... 0
 significant..... 1
 complete 2
- bilateral minor..... 0
 significant..... 2.5
 complete 5

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Tracheal obstruction

- minor 0 – 10
- significant 11 – 25

Tracheostomy scar without obstruction..... 0

Permanent tracheostomy 25

C. Lower Respiratory System Conditions

1. **General Principles**

- (a) An anatomical change such as circumscribed pleural plaque represents an impairment based on anatomic structure; however, if there is no abnormality of lung function, and no decrease in the ability to perform activities of daily living, then the impairment rating assigned would be zero percent.
- (b) A specific impairment is established by considering the severity and prognosis of the condition and how the impairment affects the individual's ability to perform activities of daily living.
- (c) Symptomatic assessment, though diagnostically useful, provides limited quantitative information, and should not be used as the sole criterion for assessing impairment.
- (d) Pulmonary function tests are the most useful clinical studies for assessing pulmonary functional changes.

2. **Symptoms**

- (a) Dyspnea
 - most common symptom in pulmonary impairment.
 - non-specific - cardiac, hematologic metabolic, neurologic, psychological or physical fitness causes

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American Thoracic Society (ATS) Classification of Dyspnea

Severity	Definition by Historical Question/Response
Mild	Do you have to walk more slowly on the level than people of your age because of breathlessness?
Moderate	Do you have to stop for breath when walking at your own pace on the level?
Severe	Do you ever have to stop for breath after walking about 100 yards or for a few minutes on the level?
Very Severe	Are you too breathless to leave the house, or breathless on dressing or undressing?

(b) Cough

- Document
 - presence/absence
 - productive/non-productive
 - relationship to work
 - duration
 - hemoptysis

Chronic bronchitis = sputum-producing cough that occurs on most days for at least 3 consecutive months a year for at least 2 consecutive years (ATS criteria)

(c) Hemoptysis

- Conditions that are often associated with hemoptysis include bronchogenic carcinoma, pulmonary emboli, bronchiectasis, tuberculosis, aspergilloma, and arteriovenous malformations.

(d) Wheezing

- high pitched musical sounds
- inspiratory or stridor suggests laryngeal causes
- expiratory suggests bronchospasm

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(e) Symptoms Due to Thoracic Cage Abnormalities

- Such as spinal abnormalities (e.g. Kyphoscoliosis).
- Respiratory compromise is produced by a combination of restricted lung volume, decreased cross-sectional area of the vascular bed, and decrease in chest wall compliance which occurs with age.
- Progressive stiffness of the chest wall with age increases the work of breathing and causes hyperventilation. Hypoxia is a powerful pulmonary vasoconstrictor and further decreases vascular cross-sectional area, leading to cor pulmonale.
- Judge severity of respiratory impairment on criteria listed in "Forced Expiratory Maneuvers", "Diffusing Capacity for Carbon Monoxide" and other criteria for rating impairment due to respiratory disease provided.

3. Tobacco Use and Environmental Exposure

(a) Tobacco Use

- Standard measure of "pack years":
$$\frac{\text{number of years of smoking}}{\text{of smoking}} \times \frac{\text{number of packs smoked per day}}{\text{smoked per day}}$$
- Most frequent cause of chronic bronchitis, emphysema, and lung cancer, and can exacerbate asthma.
- Risk of bronchogenic carcinoma decreases progressively in the first 10-15 years after quitting smoking, stabilizing at a point slightly higher than someone who has never smoked.

(b) Environmental Exposure

- Exposure to toxic materials, irritative gases, fumes, mists or vapours, organic materials, fibrogenic dust, bioaerosols, paints, glues, pesticides and allergens as well as pets, cool-mist vaporizers, humidifiers, indoor hot tubs and chlorinated and ozonated swimming pools all may cause, or exacerbate respiratory disease.

4. Evaluation of Respiratory Disease

(a) Physical Examination

- Noisy breath sounds may indicate airflow obstruction.
- Pursed lip breathing during expiration may suggest chronic obstructive pulmonary disease (COPD).
- Inspiratory crackles heard in two thirds of people with chronic interstitial lung disease may be associated with restrictive respiratory impairment.
- Wheezes or rhonchi indicate bronchial abnormalities and are often heard in obstructive airway disease.
- Cyanosis unreliable indicator of severe pulmonary impairment, and requires pulse oximetry or arterial blood gas analysis for confirmation.
- Digital clubbing associated with pulmonary fibrosis, bronchiectasis, bronchogenic carcinoma, pleural tumors, lung abscess, empyema and cyanotic congenital heart disease.

(b) Chest X-ray

- Initial posteroanterior and lateral views in full inspiration

(c) Computed Tomography (CT) - High-Resolution CT (HRCT)

- More sensitive in evaluating certain pulmonary diseases, such as asbestosis.
- Conventional CT - 10 mm thick slices. Good for high radiographic attenuation lesions.
- HRCT - 1-2 mm thick slices. Good for low radiographic attenuation lesions.
- HRCT delivers significantly less whole body effective dose radiation than standard CT.

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(d) Forced Expiratory Maneuvers (Simple Spirometry)

- Spirometric testing equipment, calibration, and administration techniques must conform to the guidelines of the 1994 ATS Statement on Standardization of Spirometry.
- If tolerated by the claimant, remove pulmonary medications up to 24 hours before spirometry or methacholine challenge testing to assess pulmonary function without the effects of medication.
- Measurements are made from at least three acceptable spirometric tracings that demonstrate uniformity pertaining to both the expiratory flow pattern and concordance of at least two of the test results within 5% of each other; to include the following:
 - i) Forced vital capacity (FVC)
 - ii) Forced expiratory volume in the first second (FEV₁)
 - iii) Ratio of these measurements (FEV₁/FVC)
- Tracings with the highest FVC and FEV₁ are used to occur on different expiratory efforts.
- Repeat spirometry after bronchodilator administration if FEV₁/FVC is below 0.70 or if there is wheezing on physical examination.
- Use the spirogram indicating best effort, before or after bronchodilator administration, to determine FVC and FEV₁ for impairment assessment.
- To use pulmonary function measures, obtain measurements of the FVC, FEV₁, and Dco (Diffusing Capacity for Carbon Monoxide) and compare these to the appropriate predicted normal value tables in Appendix B. (Pulmonary Function Tables I, III, V, VII, IX and XI) For the average or mean predicted normal value, find the individual's age in the left-hand column and height along the top row; the predicted value lies at the intersection of the appropriate row and column. In addition, identify the lower limit of normal for the measure in question by using the appropriate predicted lower limit value tables in Appendix B. (Pulmonary Function Tables II, IV, VI, VIII, X, and XII) The lower limit of normal has been calculated based upon the standard convention of the lower limit of normal lying at the

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fifth percentile, below the upper 95% of the reference population, according to ATS recommendations.

- The ATS task force for the interpretation of pulmonary function recommends an adjustment on a population basis for predicted lung function in blacks.
 - Multiply values for predicted normal FVC (Pulmonary Function Tables I and III) by 0.88, for predicted normal FEV₁ (Pulmonary Function Tables V and VII), by 0.88 and for normal single breath Dco (Pulmonary Tables IX and XI) by 0.93 for blacks.
 - North American whites have larger spirometric values for a given age, height and gender than North American blacks.
 - Reliable population data are not yet available for other ethnic groups, such as Hispanics, Native North Americans and Asians, although similar in tendencies to North American blacks, have been noticed in these racial groups, it is still recommended that the values for North American whites be used in assessing their respiratory impairment.
- (e) Diffusing Capacity for Carbon Monoxide (Dco)
- Use a single breath Dco to evaluate all levels of impairment.
 - Physiological factors affecting the gas transfer process Include:
 - i) Alveolar-capillary membrane thickness
 - ii) Available gas exchange surface area
 - iii) Gas solubility
 - iv) Pulmonary capillary blood volume
 - v) Hematocrit
 - vi) Test gas concentration gradient across the alveolar-capillary membrane
 - vii) Hemoglobin binding site availability
 - Mechanical factors affecting Dco results include:
 - i) Test gas inhalation speed
 - ii) Inspiration depth
 - iii) Period of breath holding
 - iv) Expiration speed
 - Extrapulmonary factors

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- i) Cigarette smoking can elevate blood CO levels causing as much as 10-12% hemoglobin saturation and decreasing Dco.
 - ii) Have claimant not smoke for at least 8 hours before the test
 - Use tables in Appendix B (Pulmonary Function Tables IX and XI) for predicted normal diffusing capacity.
 - Use table in Appendix C (Impairment Classification for Respiratory Disease, Using Pulmonary Function and Exercise Tests) to determine respiratory impairment.
- (f) Cardiopulmonary Exercise Testing
- Used to determine whether claimant's complaint of dyspnea is due to respiratory or cardiac conditions.
 - Exercise capacity is measured by oxygen consumption per unit time in milliliters per kilogram multiplied by minutes, or in metabolic equivalents (METS).
 - Generally, an individual can sustain a work level equal to 40% of his/her measured maximum oxygen consumption ($\text{VO}_2 \text{ max}$) for an eight hour period.

Prolonged Physical Work Intensity/Oxygen Consumption

<u>Work Intensity For 70 kg Person</u>	<u>Oxygen Consumption</u>	<u>Excess Energy Expenditure</u>
Light work	7 ml/kg; 0.5 L/min	< 2 METS
Moderate work	8-15 ml/kg; 0.6-1.0 L/min	2-4 METS
Heavy work	16-20 ml/kg; 1.1-1.5 L/min	5-6 METS
Very heavy work	21-30 ml/kg; 1.6-2.0 L/min	7-9 METS
Arduous work	> 30 ml/kg; > 2.0 L/min	> 8 METS

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(g) Arterial Blood Gases

- In most claimants with obstructive lung disease, exercise capacity correlates with FEV₁, better than arterial partial pressure of oxygen (PO₂).
- For impairment evaluation, hypoxia must be measured on two separate occasions at least 4 weeks apart.
- Pulse oximetry often provides an adequate estimate of hypoxia and is less invasive than arterial blood gases.
- Arterial PO₂ less than 55 mm Hg is evidence of severe impairment if claimant is at rest, breathing room air at sea level.
- Arterial PO₂ less than 60 mm Hg may also indicate severe impairment if the claimant also has one or more of the following:
 - i) Pulmonary hypertension
 - ii) Cor pulmonale
 - iii) Increasingly severe hypoxia during exercise testing
 - iv) Erythrocytosis

(h) Rating Impairment Due to Respiratory Disease

- All claimants being assessed for respiratory impairment require spirometry.
- Claimant must meet all of the listed criteria except for VO₂ max in order to be considered non-impaired (see table in Appendix C "Impairment Classification For Respiratory Disease, Using Pulmonary Function and Exercise Tests").
- At least one of the listed criteria must be fulfilled to place an individual in any category with an impairment rating.

XXII. Asthma

Either Tables A (1-3), Table B or Table C apply to assess asthma severity. The following considerations determine which tables or table to apply:

- Tables A1, A2 and A3 are used to make a clinical assessment based upon lung function tests and medication needs. The scores from Tables A1, A2 and A3 are added to obtain a total score for asthma severity.
- If the total score from Tables A1, A2 and A3 is "0", Table B is used to assess the severity of subjective symptoms.
- If the score from Table B is also "0", Table C is used to assess sensitization in an asymptomatic worker, resulting in the need to avoid work environments containing a sensitizing agent.
- Based on the asthma severity score from Tables A (1-3), Table B or Table C, Table D is then used to assign a percentage disability rating.

Table A1: Post-bronchodilator FEV₁*

Score	FEV ₁ % predicted
0	≥ lower limit of normal
1	70% – 80% of predicted
2	60% – 69% of predicted
3	50% – 59% of predicted
4	<50% of predicted

Table A2: Reversibility of FEV₁ or Degree of Airway Hyperresponsiveness

Score	% FEV ₁ Change	OR	PC ₂₀ ** mg/ml or Equivalent (Degree of Airway Hyperresponsiveness)
0	<10%		>8 mg/ml
1	10% – 19%		8 mg/ml to >0.6 mg/ml
2	20% – 29%		0.6 mg/ml to >0.125 mg/ml
3	≥ 30%		≤ 0.125 mg/ml
4	n/a		n/a

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Table A3: Minimum Medication Need

Score	Medication
0	None
1	Occasional (but not daily) bronchodilator and/or occasional (but not daily) bronchodilator alternative
2	Daily bronchodilator and/or daily bronchodilator alternative and/or daily low dose inhaled steroid (< 800µg of beclomethasone or equivalent)
3	Bronchodilator on demand and daily high-dose inhaled steroid (>800µg of beclomethasone or equivalent) or occasional course (1-3 courses per year) of systemic steroid
4	Bronchodilator on demand and daily high-dose inhaled steroid (>800µg of beclomethasone or equivalent) and daily or every other day systemic steroid

*FEV₁ indicates the “forced expiratory volume” of air exhaled during the first second of a forced breath.

**PC₂₀ is the “provocative concentration” of a stimulus that causes a 20% fall in FEV₁.

If FEV₁ is ≥ to the lower limit of normal, PC₂₀ should be determined and used for rating asthma severity; if FEV₁ is 70% to 80%, either reversibility or PC₂₀ can be used; if FEV₁ is < 70% of the predicted, reversibility only is used for rating asthma severity.

XXII. Asthma

Table B: Symptom Severity as Reported by the Treating Physician or Board Medical Advisor

Score	Symptoms
0	None
0.3	Shortness of breath on exertion
0.6	Shortness of breath and wheezing on moderate exertion
0.9	Shortness of breath, wheezing, cough, and chest tightness on mild exertion

Table C: Sensitization

Score	Sensitization
0	The worker is able to return to the workplace without experiencing asthmatic symptoms.
0.1 – 0.2	<p>The worker reacts with asthmatic symptoms upon exposure to a sensitizing agent in the workplace, indicated by increased bronchial reactivity and/or a significant change in peak flow when the worker returns to the workplace under conditions that do not expose the worker to irritant levels of the sensitizing agent or other known respiratory irritants. After considering medical advice, the Board determines that the worker must avoid workplaces containing the sensitizing agent.</p> <p>In assessing the disability rating, the Board considers the extent to which the sensitizing agent is commonly found in work environments. Generally, the more common the sensitizing agent, the higher the disability rating.</p>

XXII. Asthma

Table D: Asthma Disability Rating

Score (Table A(1-3), B or C whichever is higher)	Percentage
0	0
0.1 – 0.2	1 – 2
0.3	3
0.6	6
0.9	9
1	10
2	14
3	18
4	22
5	26
6	30
7	34
8	42
9	50
10 - 11	51 - 100

XXIII. Contact Dermatitis

Signs and Symptoms	Treatment (see below for details)	Percentage
<p>Skin disorder signs and symptoms not present when the worker is removed from a workplace sensitizing agent, but the worker reacts with recurrent signs and symptoms of marked extent and severity when exposed to the sensitizing agent. The worker experiences these signs and symptoms when he or she returns to the workplace under conditions that do not expose the worker to irritant levels of the sensitizing agent or other known dermal irritants. After considering medical advice, the Board determines that the worker must avoid workplaces containing the sensitizing agent.</p> <p>In assessing the disability rating, the Board considers the extent to which the sensitizing agent is commonly found in work environments. Generally, the more common the sensitizing agent, the higher the disability rating.</p>	Requires no treatment.	1 – 2
Skin disorder signs and symptoms present or intermittently present.	Requires no or intermittent treatment with agents listed in 1 below.	3 – 5
Skin disorder signs and symptoms intermittently or constantly present.	Requires intermittent treatment with agents listed in 1 and 2 below.	6 – 24
Skin disorder signs and symptoms constantly present.	Constant treatment with agents listed in 1 and 2 below. Cases such as these are rare and require tertiary level medical input.	25 – 50

In evaluating the severity of the worker's condition and its effect on earning capacity, the Board officer may consider the limitations experienced by the worker in his or her activities of daily living.

1. Treatments

Topical Treatment

Topical treatment may be indicated for mild cases of contact dermatitis with limited site of involvement, acute contact dermatitis when the offending agent has been removed, or chronic contact dermatitis with limited symptoms.

Topical therapy frequently includes:

- Emollients, lubricants, moisturizers
- Non-alkaline cleansers instead of soap
- Cool compresses
- Lotions, such as calamine
- Topical corticosteroid creams, ointments, lotions, gels or spray
- Antibiotics

Systemic Treatment

- Antihistamines
- Antibiotics

2. Systemic Treatment (Other)

Systemic treatment may be indicated for control of itching and/or edema even in cases of limited extent. Systemic treatment may also be indicated for moderate to severe acute and/or chronic contact dermatitis. Such treatments include:

- Antihistamines
- Corticosteroids (oral or parenteral)
- Antibiotics (oral or parenteral)
- Psoralen (topical or oral) and ultraviolet A radiation (PUVA)
- Azathioprine
- Cyclosporin

APPENDIX A

ADULT PINCH AND GRIP STRENGTH, Mathiowetz et al. [Arch. Phys. Med. Rehabil. Vol. 66, Feb 85]											
Table 1: Average Performance of All Subjects on Grip Strength (pounds)											
Age	Hand	Men					Women				
		Mean	SD	SE	Low	High	Mean	SD	SE	Low	High
20-24	R	121.0	20.6	3.8	91	167	70.4	14.5	2.8	46	95
	L	104.5	21.8	4.0	71	150	61.0	13.1	2.6	33	88
25-29	R	120.8	23.0	4.4	78	158	74.5	13.9	2.7	48	97
	L	110.5	16.2	3.1	77	139	63.5	12.2	2.4	48	97
30-34	R	121.8	22.4	4.3	70	170	78.7	19.2	3.8	46	137
	L	110.4	21.7	4.2	64	145	68.0	17.7	3.5	36	115
35-39	R	119.7	24.0	4.8	76	176	74.1	10.8	2.2	50	99
	L	112.9	21.7	4.4	73	157	66.3	11.7	2.3	49	91
40-44	R	116.8	20.7	4.1	84	165	70.4	13.5	2.4	38	103
	L	112.8	18.7	3.7	73	157	62.3	13.8	2.5	35	94
45-49	R	109.9	23.0	4.3	65	155	62.2	15.1	3.0	39	100
	L	100.8	22.8	4.3	58	160	56.0	12.7	2.5	37	83
50-54	R	113.6	18.1	3.6	79	151	65.8	11.6	2.3	38	87
	L	101.9	17.0	3.4	70	143	57.3	10.7	2.1	35	76
55-59	R	101.1	26.7	5.8	59	154	57.3	12.5	2.5	33	86
	L	83.2	23.4	5.1	43	128	47.3	11.9	2.4	31	76
60-64	R	89.7	20.4	4.2	51	137	55.1	10.1	2.0	37	77
	L	76.8	20.3	4.1	27	116	45.7	10.1	2.0	29	66
65-69	R	91.1	20.6	4.0	56	131	49.6	9.7	1.8	35	74
	L	76.8	19.8	3.8	43	117	41.0	8.2	1.5	29	63
70-74	R	75.3	21.5	4.2	32	108	49.6	11.7	2.2	33	78
	L	64.8	18.1	3.7	32	93	41.5	10.2	1.9	23	67
75+	R	65.7	21.0	4.2	40	135	42.6	11.0	2.2	25	65
	L	55.0	17.0	3.4	31	119	37.6	8.9	1.7	24	61
All subjects	R	104.3	28.3	1.6	32	176	62.8	17.0	0.96	25	137
	L	93.1	27.6	1.6	27	160	53.9	15.7	0.88	23	115

ADULT PINCH AND GRIP STRENGTH, Mathiowetz et al. [Arch. Phys. Med. Rehabil. Vol. 66, Feb 85]											
Table 2: Average Performance of All Subjects on Key Pinch (pounds)											
Age	Hand	Men					Women				
		Mean	SD	SE	Low	High	Mean	SD	SE	Low	High
20-24	R	26.0	3.5	0.65	21	34	17.6	2.0	0.39	14	23
	L	24.8	3.4	0.64	19	31	16.2	2.1	0.41	13	23
25-29	R	26.7	4.9	0.94	19	41	17.7	2.1	0.41	14	22
	L	25.0	4.4	0.85	19	39	16.6	2.1	0.41	13	22
30-34	R	26.4	4.8	0.93	20	36	18.7	3.0	0.60	13	25
	L	26.2	5.1	0.98	17	36	17.8	3.6	0.70	12	26
35-39	R	26.1	3.2	0.65	21	32	16.6	2.0	0.40	12	21
	L	25.6	3.9	0.77	18	32	16.0	2.7	0.53	12	22
40-44	R	25.6	2.6	0.50	21	31	16.7	3.1	0.56	10	24
	L	25.1	4.0	0.79	19	31	15.8	3.1	0.55	8	22
45-49	R	25.8	3.9	0.73	19	35	17.6	3.2	0.65	13	24
	L	24.8	4.4	0.84	18	42	16.6	2.9	0.58	12	24
50-54	R	26.7	4.4	0.88	20	34	16.7	2.5	0.50	12	22
	L	26.1	4.2	0.84	20	37	16.1	2.7	0.53	12	22
55-59	R	24.2	4.2	0.92	18	34	15.7	2.5	0.50	11	21
	L	23.0	4.7	1.02	13	31	14.7	2.2	0.44	12	19
60-64	R	23.2	5.4	1.13	14	37	15.5	2.7	0.55	10	20
	L	22.2	4.1	0.84	16	33	14.1	2.5	0.50	10	19
65-69	R	23.4	3.9	0.75	17	32	15.0	2.6	0.49	10	21
	L	22.0	3.6	0.70	17	28	14.3	2.8	0.53	10	20
70-74	R	19.3	2.4	0.47	16	25	14.5	2.9	0.54	8	22
	L	19.2	3.0	0.59	13	28	13.8	3.0	0.56	9	22
75+	R	20.5	4.6	0.91	9	31	12.6	2.3	0.45	8	17
	L	19.1	3.0	0.59	13	24	11.4	2.6	0.50	7	16
All subjects	R	24.5	4.6	0.26	9	41	16.2	3.0	0.17	8	25
	L	23.6	4.6	0.26	11	42	15.3	3.1	0.18	7	26

APPENDIX B

Pulmonary Function Table I

Predicted Normal Forced Vital Capacity (FVC) in Liters for Men (BTPS)*																									
Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18	3.72	3.84	3.96	4.08	4.20	4.32	4.44	4.56	4.68	4.80	4.92	5.04	5.16	5.28	5.40	5.52	5.64	5.76	5.88	6.00	6.12	6.24	6.36	6.48	6.60
20	3.68	3.80	3.92	4.04	4.16	4.28	4.40	4.52	4.64	4.76	4.88	5.00	5.12	5.24	5.36	5.48	5.60	5.72	5.84	5.96	6.08	6.20	6.32	6.44	6.56
22	3.64	3.76	3.88	4.00	4.12	4.24	4.36	4.48	4.60	4.72	4.84	4.96	5.08	5.20	5.32	5.44	5.56	5.68	5.80	5.92	6.04	6.16	6.28	6.40	6.52
24	3.60	3.72	3.84	3.95	4.08	4.20	4.32	4.44	4.56	4.68	4.80	4.92	5.04	5.16	5.28	5.40	5.52	5.64	5.76	5.88	6.00	6.12	6.24	6.36	6.48
26	3.55	3.67	3.79	3.91	4.03	4.15	4.27	4.39	4.51	4.63	4.75	4.87	4.99	5.11	5.23	5.35	5.47	5.59	5.71	5.83	5.95	6.07	6.19	6.31	6.43
28	3.51	3.63	3.75	3.87	3.99	4.11	4.23	4.35	4.47	4.59	4.71	4.83	4.95	5.07	5.19	5.31	5.43	5.55	5.67	5.79	5.91	6.03	6.15	6.27	6.39
30	3.47	3.59	3.71	3.83	3.95	4.07	4.19	4.31	4.43	4.55	4.67	4.79	4.91	5.03	5.15	5.27	5.39	5.51	5.63	5.75	5.87	5.99	6.11	6.23	6.35
32	3.43	3.55	3.67	3.79	3.91	4.03	4.15	4.27	4.39	4.51	4.63	4.75	4.87	4.99	5.11	5.23	5.35	5.47	5.59	5.71	5.83	5.95	6.07	6.19	6.31
34	3.38	3.50	3.62	3.74	3.86	3.98	4.10	4.22	4.34	4.46	4.58	4.70	4.82	4.94	5.06	5.18	5.30	5.42	5.54	5.66	5.78	5.90	6.02	6.14	6.26
36	3.34	3.46	3.58	3.70	3.82	3.94	4.06	4.18	4.30	4.42	4.54	4.66	4.78	4.90	5.02	5.14	5.26	5.38	5.50	5.62	5.74	5.86	5.98	6.10	6.22
38	3.30	3.42	3.54	3.66	3.78	3.90	4.02	4.14	4.26	4.38	4.50	4.62	4.74	4.86	4.98	5.10	5.22	5.34	5.46	5.58	5.70	5.82	5.94	6.06	6.18
40	3.25	3.37	3.49	3.61	3.73	3.85	3.97	4.09	4.21	4.33	4.45	4.57	4.69	4.81	4.93	5.05	5.17	5.29	5.41	5.53	5.65	5.77	5.89	6.01	6.13
42	3.21	3.33	3.45	3.57	3.69	3.81	3.93	4.05	4.17	4.29	4.41	4.53	4.65	4.77	4.89	5.01	5.13	5.25	5.37	5.49	5.61	5.73	5.85	5.97	6.09
44	3.17	3.29	3.41	3.53	3.65	3.77	3.89	4.01	4.13	4.25	4.37	4.49	4.61	4.73	4.85	4.97	5.09	5.21	5.33	5.45	5.57	5.69	5.81	5.93	6.05
46	3.13	3.25	3.37	3.49	3.61	3.73	3.85	3.97	4.09	4.21	4.33	4.45	4.57	4.69	4.81	4.93	5.05	5.17	5.29	5.41	5.53	5.65	5.77	5.89	6.01
48	3.08	3.20	3.32	3.44	3.56	3.68	3.80	3.92	4.04	4.16	4.28	4.40	4.52	4.64	4.76	4.88	5.00	5.12	5.24	5.36	5.48	5.60	5.72	5.84	5.96
50	3.04	3.16	3.28	3.40	3.52	3.64	3.76	3.88	4.00	4.12	4.24	4.36	4.48	4.60	4.72	4.84	4.96	5.08	5.20	5.32	5.44	5.56	5.68	5.80	5.92
52	3.00	3.12	3.24	3.36	3.48	3.60	3.72	3.84	3.96	4.08	4.20	4.32	4.44	4.56	4.68	4.80	4.92	5.04	5.16	5.28	5.40	5.52	5.64	5.76	5.88
54	2.95	3.07	3.19	3.31	3.43	3.55	3.67	3.79	3.91	4.03	4.15	4.27	4.39	4.51	4.63	4.75	4.87	4.99	5.11	5.23	5.35	5.47	5.59	5.71	5.83
56	2.91	3.03	3.15	3.27	3.39	3.51	3.63	3.75	3.87	3.99	4.11	4.23	4.35	4.47	4.59	4.71	4.83	4.95	5.07	5.19	5.31	5.43	5.55	5.67	5.79
58	2.87	2.99	3.11	3.23	3.35	3.47	3.59	3.71	3.83	3.95	4.07	4.19	4.31	4.43	4.55	4.67	4.79	4.91	5.03	5.15	5.27	5.39	5.51	5.63	5.75
60	2.83	2.95	3.07	3.19	3.31	3.43	3.55	3.67	3.79	3.91	4.03	4.15	4.27	4.39	4.51	4.63	4.75	4.87	4.99	5.11	5.23	5.35	5.47	5.59	5.71
62	2.78	2.90	3.02	3.14	3.26	3.38	3.50	3.62	3.74	3.86	3.98	4.10	4.22	4.34	4.46	4.58	4.70	4.82	4.94	5.06	5.18	5.30	5.42	5.54	5.66
64	2.74	2.86	2.98	3.10	3.22	3.34	3.46	3.58	3.70	3.82	3.94	4.06	4.18	4.30	4.42	4.54	4.66	4.78	4.90	5.02	5.14	5.26	5.38	5.50	5.62
66	2.70	2.82	2.94	3.06	3.18	3.30	3.42	3.54	3.66	3.78	3.90	4.02	4.14	4.26	4.38	4.50	4.62	4.74	4.86	4.98	5.10	5.22	5.34	5.46	5.58
68	2.65	2.77	2.89	3.01	3.13	3.25	3.37	3.49	3.61	3.73	3.85	3.97	4.09	4.21	4.33	4.45	4.57	4.69	4.81	4.93	5.05	5.17	5.29	5.41	5.53
70	2.61	2.73	2.85	2.97	3.09	3.21	3.33	3.45	3.57	3.69	3.81	3.93	4.05	4.17	4.29	4.41	4.53	4.65	4.77	4.89	5.01	5.13	5.25	5.37	5.49
72	2.57	2.69	2.81	2.93	3.05	3.17	3.29	3.41	3.53	3.65	3.77	3.89	4.01	4.13	4.25	4.37	4.49	4.61	4.73	4.85	4.97	5.09	5.21	5.33	5.45
74	2.53	2.65	2.77	2.89	3.01	3.13	3.25	3.37	3.49	3.61	3.73	3.85	3.97	4.09	4.21	4.33	4.45	4.57	4.69	4.81	4.93	5.05	5.17	5.29	5.41

*FVC in liters = $0.0600 H - 0.0214 A - 4.650$. $R^2 = 0.54$; SEE = 0.644; 95% confidence level = 1.115. Definitions of abbreviations: R^2 = coefficient of determination; SEE = standard error of estimate; H = height in cm; A = age in years. BTPS = body temperature, ambient pressure, and saturated with water vapor at these conditions. Adapted from Crapo et al.²

APPENDIX B

Pulmonary Function Table II

Predicted Lower Limit of Normal Forced Vital Capacity (FVC) for Men*

Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18	2.605	2.725	2.845	2.965	3.085	3.205	3.325	3.445	3.565	3.685	3.805	3.925	4.045	4.165	4.285	4.405	4.525	4.645	4.765	4.885	5.005	5.125	5.245	5.365	5.485
20	2.565	2.685	2.805	2.925	3.045	3.165	3.285	3.405	3.525	3.645	3.765	3.885	4.005	4.125	4.245	4.365	4.485	4.605	4.725	4.845	4.965	5.085	5.205	5.325	5.445
22	2.525	2.645	2.765	2.885	3.005	3.125	3.245	3.365	3.485	3.605	3.725	3.845	3.965	4.085	4.205	4.325	4.445	4.565	4.685	4.805	4.925	5.045	5.165	5.285	5.405
24	2.485	2.605	2.725	2.835	2.965	3.085	3.205	3.325	3.445	3.565	3.685	3.805	3.925	4.045	4.165	4.285	4.405	4.525	4.645	4.765	4.885	5.005	5.125	5.245	5.365
26	2.435	2.555	2.675	2.795	2.915	3.035	3.155	3.275	3.395	3.515	3.635	3.755	3.875	3.995	4.115	4.235	4.355	4.475	4.595	4.715	4.835	4.955	5.075	5.195	5.315
28	2.395	2.515	2.635	2.755	2.875	2.995	3.115	3.235	3.355	3.475	3.595	3.715	3.835	3.955	4.075	4.195	4.315	4.435	4.555	4.675	4.795	4.915	5.035	5.155	5.275
30	2.355	2.475	2.595	2.715	2.835	2.955	3.075	3.195	3.315	3.435	3.555	3.675	3.795	3.915	4.035	4.155	4.275	4.395	4.515	4.635	4.755	4.875	4.995	5.115	5.235
32	2.315	2.435	2.555	2.675	2.795	2.915	3.035	3.155	3.275	3.395	3.515	3.635	3.755	3.875	3.995	4.115	4.235	4.355	4.475	4.595	4.715	4.835	4.955	5.075	5.195
34	2.265	2.385	2.505	2.625	2.745	2.865	2.985	3.105	3.225	3.345	3.465	3.585	3.705	3.825	3.945	4.065	4.185	4.305	4.425	4.545	4.665	4.785	4.905	5.025	5.145
36	2.225	2.345	2.465	2.585	2.705	2.825	2.945	3.065	3.185	3.305	3.425	3.545	3.665	3.785	3.905	4.025	4.145	4.265	4.385	4.505	4.625	4.745	4.865	4.985	5.105
38	2.185	2.305	2.425	2.545	2.665	2.785	2.905	3.025	3.145	3.265	3.385	3.505	3.625	3.745	3.865	3.985	4.105	4.225	4.345	4.465	4.585	4.705	4.825	4.945	5.065
40	2.135	2.255	2.375	2.495	2.615	2.735	2.855	2.975	3.095	3.215	3.335	3.455	3.575	3.695	3.815	3.935	4.055	4.175	4.295	4.415	4.535	4.655	4.775	4.895	5.015
42	2.095	2.215	2.335	2.455	2.575	2.695	2.815	2.935	3.055	3.175	3.295	3.415	3.535	3.655	3.775	3.895	4.015	4.135	4.255	4.375	4.495	4.615	4.735	4.855	4.975
44	2.055	2.175	2.295	2.415	2.535	2.655	2.775	2.895	3.015	3.135	3.255	3.375	3.495	3.615	3.735	3.855	3.975	4.095	4.215	4.335	4.455	4.575	4.695	4.815	4.935
46	2.015	2.135	2.255	2.375	2.495	2.615	2.735	2.855	2.975	3.095	3.215	3.335	3.455	3.575	3.695	3.815	3.935	4.055	4.175	4.295	4.415	4.535	4.655	4.775	4.895
48	1.965	2.085	2.205	2.325	2.445	2.565	2.685	2.805	2.925	3.045	3.165	3.285	3.405	3.525	3.645	3.765	3.885	4.005	4.125	4.245	4.365	4.485	4.605	4.725	4.845
50	1.925	2.045	2.165	2.285	2.405	2.525	2.645	2.765	2.885	3.005	3.125	3.245	3.365	3.485	3.605	3.725	3.845	3.965	4.085	4.205	4.325	4.445	4.565	4.685	4.805
52	1.885	2.005	2.125	2.245	2.365	2.485	2.605	2.725	2.845	2.965	3.085	3.205	3.325	3.445	3.565	3.685	3.805	3.925	4.045	4.165	4.285	4.405	4.525	4.645	4.765
54	1.835	1.955	2.075	2.195	2.315	2.435	2.555	2.675	2.795	2.915	3.035	3.155	3.275	3.395	3.515	3.635	3.755	3.875	3.995	4.115	4.235	4.355	4.475	4.595	4.715
56	1.795	1.915	2.035	2.155	2.275	2.395	2.515	2.635	2.755	2.875	2.995	3.115	3.235	3.355	3.475	3.595	3.715	3.835	3.955	4.075	4.195	4.315	4.435	4.555	4.675
58	1.755	1.875	1.995	2.115	2.235	2.355	2.475	2.595	2.715	2.835	2.955	3.075	3.195	3.315	3.435	3.555	3.675	3.795	3.915	4.035	4.155	4.275	4.395	4.515	4.635
60	1.715	1.835	1.955	2.075	2.195	2.315	2.435	2.555	2.675	2.795	2.915	3.035	3.155	3.275	3.395	3.515	3.635	3.755	3.875	3.995	4.115	4.235	4.355	4.475	4.595
62	1.665	1.785	1.905	2.025	2.145	2.265	2.385	2.505	2.625	2.745	2.865	2.985	3.105	3.225	3.345	3.465	3.585	3.705	3.825	3.945	4.065	4.185	4.305	4.425	4.545
64	1.625	1.745	1.865	1.985	2.105	2.225	2.345	2.465	2.585	2.705	2.825	2.945	3.065	3.185	3.305	3.425	3.545	3.665	3.785	3.905	4.025	4.145	4.265	4.385	4.505
66	1.585	1.705	1.825	1.945	2.065	2.185	2.305	2.425	2.545	2.665	2.785	2.905	3.025	3.145	3.265	3.385	3.505	3.625	3.745	3.865	3.985	4.105	4.225	4.345	4.465
68	1.535	1.655	1.775	1.895	2.015	2.135	2.255	2.375	2.495	2.615	2.735	2.855	2.975	3.095	3.215	3.335	3.455	3.575	3.695	3.815	3.935	4.055	4.175	4.295	4.415
70	1.495	1.615	1.735	1.855	1.975	2.095	2.215	2.335	2.455	2.575	2.695	2.815	2.935	3.055	3.175	3.295	3.415	3.535	3.655	3.775	3.895	4.015	4.135	4.255	4.375
72	1.455	1.575	1.695	1.815	1.935	2.055	2.175	2.295	2.415	2.535	2.655	2.775	2.895	3.015	3.135	3.255	3.375	3.495	3.615	3.735	3.855	3.975	4.095	4.215	4.335
74	1.415	1.535	1.655	1.775	1.895	2.015	2.135	2.255	2.375	2.495	2.615	2.735	2.855	2.975	3.095	3.215	3.335	3.455	3.575	3.695	3.815	3.935	4.055	4.175	3.180

*FVC values are given in liters. The values listed here reflect the FVC as listed in Table 5-2a minus 1.115 L (95% confidence interval). Adapted from Crapo et al.²

APPENDIX B

Pulmonary Function Table III

Predicted Normal Forced Vital Capacity (FVC) in Liters for Women (BTPS)*																									
Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18	3.19	3.29	3.39	3.48	3.58	3.68	3.78	3.88	3.98	4.07	4.17	4.27	4.37	4.47	4.56	4.66	4.76	4.86	4.96	5.06	5.15	5.25	5.35	5.45	5.55
20	3.15	3.24	3.34	3.44	3.54	3.64	3.74	3.83	3.93	4.03	4.13	4.23	4.32	4.42	4.52	4.62	4.72	4.82	4.91	5.01	5.11	5.21	5.31	5.41	5.50
22	3.10	3.20	3.30	3.40	3.50	3.59	3.69	3.79	3.89	3.99	4.09	4.18	4.28	4.38	4.48	4.58	4.67	4.77	4.87	4.97	5.07	5.17	5.26	5.36	5.46
24	3.06	3.16	3.26	3.35	3.45	3.55	3.65	3.75	3.85	3.94	4.04	4.14	4.24	4.34	4.43	4.53	4.63	4.73	4.83	4.93	5.02	5.12	5.22	5.32	5.42
26	3.02	3.12	3.21	3.31	3.41	3.51	3.61	3.70	3.80	3.90	4.00	4.10	4.20	4.29	4.39	4.49	4.59	4.69	4.78	4.88	4.98	5.08	5.18	5.28	5.37
28	2.97	3.07	3.17	3.27	3.37	3.46	3.56	3.66	3.76	3.86	3.96	4.05	4.15	4.25	4.35	4.45	4.54	4.64	4.74	4.84	4.94	5.04	5.13	5.23	5.33
30	2.93	3.03	3.13	3.23	3.32	3.42	3.52	3.62	3.72	3.81	3.91	4.01	4.11	4.21	4.31	4.40	4.50	4.60	4.70	4.80	4.89	4.99	5.09	5.19	5.29
32	2.89	2.99	3.08	3.18	3.28	3.38	3.48	3.57	3.67	3.77	3.87	3.97	4.07	4.16	4.26	4.36	4.46	4.56	4.65	4.75	4.85	4.95	5.05	5.15	5.24
34	2.84	2.94	3.04	3.14	3.24	3.34	3.43	3.53	3.63	3.73	3.83	3.92	4.02	4.12	4.22	4.32	4.42	4.51	4.61	4.71	4.81	4.91	5.00	5.10	5.20
36	2.80	2.90	3.00	3.10	3.19	3.29	3.39	3.49	3.59	3.68	3.78	3.88	3.98	4.08	4.18	4.27	4.37	4.47	4.57	4.67	4.76	4.86	4.96	5.06	5.16
38	2.76	2.86	2.95	3.05	3.15	3.25	3.35	3.45	3.54	3.64	3.74	3.84	3.94	4.03	4.13	4.23	4.33	4.43	4.53	4.62	4.72	4.82	4.92	5.02	5.11
40	2.71	2.81	2.91	3.01	3.11	3.21	3.30	3.40	3.50	3.60	3.70	3.79	3.89	3.99	4.09	4.19	4.29	4.38	4.48	4.58	4.68	4.78	4.87	4.97	5.07
42	2.67	2.77	2.87	2.97	3.06	3.16	3.26	3.36	3.46	3.56	3.65	3.75	3.85	3.95	4.05	4.14	4.24	4.34	4.44	4.54	4.64	4.73	4.83	4.93	5.03
44	2.63	2.73	2.82	2.92	3.02	3.12	3.22	3.32	3.41	3.51	3.61	3.71	3.81	3.90	4.00	4.10	4.20	4.30	4.40	4.49	4.59	4.69	4.79	4.89	4.98
46	2.58	2.68	2.78	2.88	2.98	3.08	3.17	3.27	3.37	3.47	3.57	3.67	3.76	3.86	3.96	4.06	4.16	4.25	4.35	4.45	4.55	4.65	4.75	4.84	4.94
48	2.54	2.64	2.74	2.84	2.93	3.03	3.13	3.23	3.33	3.43	3.52	3.62	3.72	3.82	3.92	4.01	4.11	4.21	4.31	4.41	4.51	4.60	4.70	4.80	4.90
50	2.50	2.60	2.69	2.79	2.89	2.99	3.09	3.19	3.28	3.38	3.48	3.58	3.68	3.78	3.87	3.97	4.07	4.17	4.27	4.36	4.46	4.56	4.66	4.76	4.86
52	2.46	2.55	2.65	2.75	2.85	2.95	3.04	3.14	3.24	3.34	3.44	3.54	3.63	3.73	3.83	3.93	4.03	4.12	4.22	4.32	4.42	4.52	4.62	4.71	4.81
54	2.41	2.51	2.61	2.71	2.80	2.90	3.00	3.10	3.20	3.30	3.39	3.49	3.59	3.69	3.79	3.89	3.98	4.08	4.18	4.28	4.38	4.47	4.57	4.67	4.77
56	2.37	2.47	2.57	2.66	2.76	2.86	2.96	3.06	3.15	3.25	3.35	3.45	3.55	3.65	3.74	3.84	3.94	4.04	4.14	4.23	4.33	4.43	4.53	4.63	4.73
58	2.33	2.42	2.52	2.62	2.72	2.82	2.91	3.01	3.11	3.21	3.31	3.41	3.50	3.60	3.70	3.80	3.90	4.00	4.09	4.19	4.29	4.39	4.49	4.58	4.68
60	2.28	2.38	2.48	2.58	2.68	2.77	2.87	2.97	3.07	3.17	3.26	3.36	3.46	3.56	3.66	2.76	3.85	3.95	4.05	4.15	4.25	4.34	4.44	4.54	4.64
62	2.24	2.34	2.44	2.53	2.63	2.73	2.83	2.93	3.02	3.12	3.22	3.32	3.42	3.52	3.61	3.71	3.81	3.91	4.01	4.11	4.20	4.30	4.40	4.50	4.60
64	2.20	2.29	2.39	2.49	2.59	2.69	2.79	2.88	2.98	3.08	3.18	3.28	3.37	3.47	3.57	3.67	3.77	3.87	3.96	4.06	4.16	4.26	4.36	4.45	4.55
66	2.15	2.25	2.35	2.45	2.55	2.64	2.74	2.84	2.94	3.04	3.14	3.23	3.33	3.43	3.53	3.63	3.72	3.82	3.92	4.02	4.12	4.22	4.31	4.41	4.51
68	2.11	2.21	2.31	2.40	2.50	2.60	2.70	2.80	2.90	2.99	3.09	3.19	3.29	3.39	3.48	3.58	3.68	3.78	3.88	3.98	4.07	4.17	4.27	4.37	4.47
70	2.07	2.16	2.26	2.36	2.46	2.56	2.66	2.75	2.85	2.95	3.05	3.15	3.24	3.34	3.44	3.54	3.64	3.74	3.83	3.93	4.03	4.13	4.23	4.33	4.42
72	2.02	2.12	2.22	2.32	2.42	2.51	2.61	2.71	2.81	2.91	3.01	3.10	3.20	3.30	3.40	3.50	3.59	3.69	3.79	3.89	3.99	4.09	4.18	4.28	4.38
74	1.98	2.08	2.18	2.27	2.37	2.47	2.57	2.67	2.77	2.86	2.96	3.06	3.16	3.26	3.36	3.45	3.55	3.65	3.75	3.85	3.94	4.04	4.14	4.24	4.34

*FVC in liters = $0.0491 H - 0.0216 A - 3.590$. $R^2 = 0.74$; SEE = 0.393; 95% confidence interval = 0.676. Definitions of abbreviations: R^2 = coefficient of determination; SEE = standard error of estimate; H = height in cm; A = age in years. BTPS = body temperature, ambient pressure, and saturated with water vapor at these conditions. Adapted from Crapo et al.²

APPENDIX B

Pulmonary Function Table IV

Predicted Lower Limit of Normal Forced Vital Capacity (FVC) for Women*

Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18	2.514	2.614	2.714	2.804	2.904	3.004	3.104	3.204	3.304	3.394	3.494	3.594	3.694	3.794	3.884	3.984	4.084	4.184	4.284	4.384	4.474	4.574	4.674	4.774	4.874
20	2.474	2.564	2.664	2.764	2.864	2.964	3.064	3.154	3.254	3.354	3.454	3.554	3.644	3.744	3.844	3.944	4.044	4.144	4.234	4.334	4.434	4.534	4.634	4.734	4.824
22	2.424	2.524	2.624	2.724	2.824	2.914	3.014	3.114	3.214	3.314	3.414	3.504	3.604	3.704	3.804	3.904	3.994	4.094	4.194	4.294	4.394	4.494	4.584	4.684	4.784
24	2.384	2.484	2.584	2.674	2.774	2.874	2.974	3.074	3.174	3.264	3.364	3.464	3.564	3.664	3.754	3.854	3.954	4.054	4.154	4.254	4.344	4.444	4.544	4.644	4.744
26	2.344	2.444	2.534	2.634	2.734	2.834	2.934	3.024	3.124	3.224	3.324	3.424	3.524	3.614	3.714	3.814	3.914	4.014	4.104	4.204	4.304	4.404	4.504	4.604	4.694
28	2.294	2.394	2.494	2.594	2.694	2.784	2.884	2.984	3.084	3.184	3.284	3.374	3.474	3.574	3.674	3.774	3.864	3.964	4.064	4.164	4.264	4.364	4.454	4.554	4.654
30	2.254	2.354	2.454	2.554	2.644	2.744	2.844	2.944	3.044	3.134	3.234	3.334	3.434	3.534	3.634	3.724	3.824	3.924	4.024	4.124	4.214	4.314	4.414	4.514	4.614
32	2.214	2.314	2.404	2.504	2.604	2.704	2.804	2.894	2.994	3.094	3.194	3.294	3.394	3.484	3.584	3.684	3.784	3.884	3.974	4.074	4.174	4.274	4.374	4.474	4.564
34	2.164	2.264	2.364	2.464	2.564	2.664	2.754	2.854	2.954	3.054	3.154	3.244	3.344	3.444	3.544	3.644	3.744	3.834	3.934	4.034	4.134	4.234	4.324	4.424	4.524
36	2.124	2.224	2.324	2.424	2.514	2.614	2.714	2.814	2.914	3.004	3.104	3.204	3.304	3.404	3.504	3.594	3.694	3.794	3.894	3.994	4.084	4.184	4.284	4.384	4.484
38	2.084	2.184	2.274	2.374	2.474	2.574	2.674	2.774	2.864	2.964	3.064	3.164	3.264	3.354	3.454	3.554	3.654	3.754	3.854	3.944	4.044	4.144	4.244	4.344	4.434
40	2.034	2.134	2.234	2.334	2.434	2.534	2.624	2.724	2.824	2.924	3.024	3.114	3.214	3.314	3.414	3.514	3.614	3.704	3.804	3.904	4.004	4.104	4.194	4.294	4.394
42	1.994	2.094	2.194	2.294	2.384	2.484	2.584	2.684	2.784	2.884	2.974	3.074	3.174	3.274	3.374	3.464	3.564	3.664	3.764	3.864	3.964	4.054	4.154	4.254	4.354
44	1.954	2.054	2.144	2.244	2.344	2.444	2.544	2.644	2.734	2.834	2.934	3.034	3.134	3.224	3.324	3.424	3.524	3.624	3.724	3.814	3.914	4.014	4.114	4.214	4.304
46	1.904	2.004	2.104	2.204	2.304	2.404	2.494	2.594	2.694	2.794	2.894	2.994	3.084	3.184	3.284	3.384	3.484	3.574	3.674	3.774	3.874	3.974	4.074	4.164	4.264
48	1.864	1.964	2.064	2.164	2.254	2.354	2.454	2.554	2.654	2.754	2.844	2.944	3.044	3.144	3.244	3.334	3.434	3.534	3.634	3.734	3.834	3.924	4.024	4.124	4.224
50	1.824	1.924	2.014	2.114	2.214	2.314	2.414	2.514	2.604	2.704	2.804	2.904	3.004	3.104	3.194	3.294	3.394	3.494	3.594	3.684	3.784	3.884	3.984	4.084	4.184
52	1.784	1.874	1.974	2.074	2.174	2.274	2.364	2.464	2.564	2.664	2.764	2.864	2.954	3.054	3.154	3.254	3.354	3.444	3.544	3.644	3.744	3.844	3.944	4.034	4.134
54	1.734	1.834	1.934	2.034	2.124	2.224	2.324	2.424	2.524	2.624	2.714	2.814	2.914	3.014	3.114	3.214	3.304	3.404	3.504	3.604	3.704	3.794	3.894	3.994	4.094
56	1.694	1.794	1.894	1.984	2.084	2.184	2.284	2.384	2.474	2.574	2.674	2.774	2.874	2.974	3.064	3.164	3.264	3.364	3.464	3.554	3.654	3.754	3.854	3.954	4.054
58	1.654	1.744	1.844	1.944	2.044	2.144	2.234	2.334	2.434	2.534	2.634	2.734	2.824	2.924	3.024	3.124	3.224	3.324	3.414	3.514	3.614	3.714	3.814	3.904	4.004
60	1.604	1.704	1.804	1.904	2.004	2.094	2.194	2.294	2.394	2.494	2.584	2.684	2.784	2.884	2.984	2.084	3.174	3.274	3.374	3.474	3.574	3.664	3.764	3.864	3.964
62	1.564	1.664	1.764	1.854	1.954	2.054	2.154	2.254	2.344	2.444	2.544	2.644	2.744	2.844	2.934	3.034	3.134	3.234	3.334	3.434	3.524	3.624	3.724	3.824	3.924
64	1.524	1.614	1.714	1.814	1.914	2.014	2.114	2.204	2.304	2.404	2.504	2.604	2.694	2.794	2.894	2.994	3.094	3.194	3.284	3.384	3.484	3.584	3.684	3.774	3.874
66	1.474	1.574	1.674	1.774	1.874	1.964	2.064	2.164	2.264	2.364	2.464	2.554	2.654	2.754	2.854	2.954	3.044	3.144	3.244	3.344	3.444	3.544	3.634	3.734	3.834
68	1.434	1.534	1.634	1.724	1.824	1.924	2.024	2.124	2.224	2.314	2.414	2.514	2.614	2.714	2.804	2.904	3.004	3.104	3.204	3.304	3.394	3.494	3.594	3.694	3.794
70	1.394	1.484	1.584	1.684	1.784	1.884	1.984	2.074	2.174	2.274	2.374	2.474	2.564	2.664	2.764	2.864	2.964	3.064	3.154	3.254	3.354	3.454	3.554	3.654	3.744
72	1.344	1.444	1.544	1.644	1.744	1.834	1.934	2.034	2.134	2.234	2.334	2.424	2.524	2.624	2.724	2.824	2.914	3.014	3.114	3.214	3.314	3.414	3.504	3.604	3.704
74	1.304	1.404	1.504	1.594	1.694	1.794	1.894	1.994	2.094	2.184	2.284	2.384	2.484	2.584	2.684	2.774	2.874	2.974	3.074	3.174	3.264	3.364	3.464	3.564	3.664

*FVC values are given in liters. The values listed here reflect the FVC as listed in Table 5-3a minus 0.676 L (95% confidence interval). Adapted from Crapo et al.²

APPENDIX B

Pulmonary Function Table V

Predicted Normal Forced Expiratory Volume in the First Second (FEV ₁) in Liters for Men*																									
Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18	3.42	3.50	3.58	3.66	3.75	3.83	3.91	3.99	4.08	4.16	4.24	4.33	4.41	4.49	4.57	4.66	4.74	4.82	4.91	4.99	5.07	5.15	5.24	5.32	5.40
20	3.37	3.45	3.53	3.61	3.70	3.78	3.86	3.95	4.03	4.11	4.19	4.28	4.36	4.44	4.53	4.61	4.69	4.77	4.86	4.94	5.02	5.11	5.19	5.27	5.35
22	3.32	3.40	3.48	3.57	3.65	3.73	3.81	3.90	3.98	4.06	4.15	4.23	4.31	4.39	4.48	4.56	4.64	4.73	4.81	4.89	4.97	5.05	5.14	5.22	5.30
24	3.27	3.35	3.43	3.52	3.60	3.68	3.77	3.85	3.93	4.01	4.10	4.18	4.26	4.35	4.43	4.51	4.59	4.68	4.76	4.84	4.92	5.01	5.09	5.17	5.26
26	3.22	3.30	3.39	3.47	3.55	3.63	3.72	3.80	3.88	3.97	4.05	4.13	4.21	4.30	4.38	4.46	4.54	4.63	4.71	4.79	4.88	4.90	5.04	5.12	5.21
28	3.17	3.25	3.34	3.42	3.50	3.59	3.67	3.75	3.83	3.92	4.00	4.08	4.16	4.25	4.33	4.41	4.50	4.58	4.66	4.74	4.83	4.91	4.99	5.08	5.16
30	3.12	3.21	3.29	3.37	3.45	3.54	3.62	3.70	3.78	3.87	3.95	4.03	4.12	4.20	4.28	4.36	4.45	4.53	4.61	4.70	4.78	4.86	4.94	5.03	5.11
32	3.07	3.16	3.24	3.32	3.40	3.49	3.57	3.65	3.74	3.82	3.90	3.98	4.07	4.15	4.23	4.32	4.40	4.48	4.56	4.65	4.73	4.81	4.90	4.98	5.06
34	3.02	3.11	3.19	3.27	3.36	3.44	3.52	3.60	3.69	3.77	3.85	3.94	4.02	4.10	4.18	4.27	4.35	4.43	4.52	4.60	4.68	4.76	4.85	4.93	5.01
36	2.98	3.06	3.14	3.22	3.31	3.39	3.47	3.56	3.64	3.72	3.80	3.89	3.97	4.05	4.14	4.22	4.30	4.38	4.47	4.55	4.63	4.71	4.80	4.88	4.96
38	2.93	3.01	3.09	3.18	3.26	3.34	3.42	3.51	3.59	3.67	3.76	3.84	3.92	4.00	4.09	4.17	4.25	4.33	4.42	4.50	4.58	4.67	4.75	4.83	4.91
40	2.88	2.96	3.04	3.13	3.21	3.29	3.38	3.46	3.54	3.62	3.71	3.79	3.87	3.95	4.04	4.12	4.20	4.29	4.37	4.45	4.53	4.62	4.70	4.78	4.87
42	2.83	2.91	3.00	3.08	3.16	3.24	3.33	3.41	3.49	3.57	3.66	3.74	3.82	3.91	3.99	4.07	4.15	4.24	4.32	4.40	4.49	4.57	4.65	4.73	4.82
44	2.78	2.86	2.95	3.03	3.11	3.19	3.28	3.36	3.44	3.53	3.61	3.69	3.77	3.86	3.94	4.02	4.11	4.19	4.27	4.35	4.44	4.52	4.60	4.69	4.77
46	2.73	2.81	2.90	2.98	3.06	3.15	3.23	3.31	3.39	3.48	3.56	3.64	3.73	3.81	3.89	3.97	4.06	4.14	4.22	4.31	4.39	4.47	4.55	4.64	4.72
48	2.68	2.77	2.85	2.93	3.01	3.10	3.18	3.26	3.35	3.43	3.51	3.59	3.68	3.76	3.84	3.93	4.01	4.09	4.17	4.25	4.34	4.42	4.50	4.59	4.67
50	2.63	2.72	2.80	2.88	2.97	3.05	3.13	3.21	3.30	3.38	3.46	3.55	3.63	3.71	3.79	3.88	3.96	4.04	4.12	4.21	4.29	4.37	4.46	4.54	4.62
52	2.59	2.67	2.75	2.83	2.92	3.00	3.08	3.17	3.25	3.33	3.41	3.50	3.58	3.66	3.74	3.83	3.91	3.99	4.08	4.16	4.24	4.32	4.41	4.49	4.57
54	2.54	2.62	2.70	2.79	2.87	2.95	3.03	3.12	3.20	3.28	3.36	3.45	3.53	3.61	3.70	3.78	3.86	3.94	4.03	4.11	4.19	4.28	4.36	4.44	4.52
56	2.49	2.57	2.65	2.74	2.82	2.90	2.98	3.07	3.15	3.23	3.32	3.40	3.48	3.56	3.65	3.73	3.81	3.90	3.98	4.06	4.14	4.23	4.31	4.39	4.48
58	2.44	2.52	2.60	2.69	2.77	2.85	2.94	3.02	3.10	3.18	3.27	3.35	3.43	3.52	3.60	3.68	3.76	3.85	3.93	4.01	4.10	4.18	4.26	4.34	4.43
60	2.39	2.47	2.55	2.64	2.72	2.80	2.89	2.97	3.05	3.14	3.22	3.30	3.38	3.47	3.55	3.63	3.72	3.80	3.88	3.96	4.05	4.13	4.21	4.29	4.38
62	2.34	2.42	2.51	2.59	2.67	2.76	2.84	2.92	3.00	3.09	3.17	3.25	3.34	3.42	3.50	3.58	3.67	3.75	3.83	3.91	4.00	4.08	4.16	4.25	4.33
64	2.29	2.38	2.46	2.54	2.62	2.71	2.79	2.87	2.96	3.04	3.12	3.20	3.29	3.37	3.45	3.53	3.62	3.70	3.78	3.87	3.95	4.03	4.11	4.20	4.28
66	2.24	2.33	2.41	2.49	2.58	2.66	2.74	2.82	2.91	2.99	3.07	3.15	3.24	3.32	3.40	3.49	3.57	3.65	3.73	3.82	3.90	3.98	4.07	4.15	4.23
68	2.20	2.28	2.36	2.44	2.53	2.61	2.69	2.77	2.86	2.94	3.02	3.11	3.19	3.27	3.35	3.44	3.52	3.60	3.69	3.77	3.85	3.93	4.02	4.10	4.18
70	2.15	2.23	2.31	2.39	2.48	2.56	2.64	2.73	2.81	2.89	2.97	3.06	3.14	3.22	3.31	3.39	3.47	3.55	3.64	3.72	3.80	3.89	3.97	4.05	4.13
72	2.10	2.18	2.26	2.35	2.43	2.51	2.59	2.68	2.76	2.84	2.93	3.01	3.09	3.17	3.26	3.34	3.42	3.51	3.59	3.67	3.75	3.84	3.92	4.00	4.08
74	2.05	2.13	2.21	2.30	2.38	2.46	2.55	2.63	2.71	2.79	2.88	2.96	3.04	3.13	3.21	3.29	3.37	3.46	3.54	3.62	3.70	3.79	3.87	3.95	4.04

*FEV₁ in liters = 0.0414 H – 0.0244 A – 2.190, R² = 0.64; SEE = 0.486; 95% confidence interval = 0.842. Definitions of abbreviations: R² = coefficient of determination; SEE = standard error of estimate; H = height in cm; A = age in years. BTPS = body temperature, ambient pressure, and saturated with water vapor at these conditions. Adapted from Crapo et al.²

APPENDIX B

Pulmonary Function Table VI

Predicted Lower Limit of Normal Forced Expiratory Volume in the First Second (FEV₁) for Men*

Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18	2.578	2.658	2.738	2.818	2.908	2.988	3.068	3.148	3.238	3.318	3.398	3.488	3.568	3.648	3.728	3.818	3.898	3.978	4.068	4.148	4.228	4.308	4.398	4.478	4.558
20	2.528	2.608	2.688	2.768	2.858	2.938	3.018	3.108	3.188	3.268	3.348	3.438	3.518	3.598	3.688	3.768	3.848	3.928	4.018	4.098	4.178	4.268	4.348	4.428	4.508
22	2.478	2.558	2.638	2.728	2.808	2.888	2.968	3.058	3.138	3.218	3.308	3.388	3.468	3.548	3.638	3.718	3.798	3.888	3.968	4.048	4.128	4.208	4.298	4.378	4.458
24	2.428	2.508	2.588	2.678	2.758	2.838	2.928	3.008	3.088	3.168	3.258	3.338	3.418	3.508	3.588	3.668	3.748	3.838	3.918	3.998	4.078	4.168	4.248	4.328	4.418
26	2.378	2.458	2.548	2.628	2.708	2.788	2.878	2.958	3.038	3.128	3.208	3.288	3.368	3.458	3.538	3.618	3.698	3.788	3.868	3.948	4.038	4.058	4.198	4.278	4.368
28	2.328	2.408	2.498	2.578	2.658	2.748	2.828	2.908	2.988	3.078	3.158	3.238	3.318	3.408	3.488	3.568	3.658	3.738	3.818	3.898	3.988	4.068	4.148	4.238	4.318
30	2.278	2.368	2.448	2.528	2.608	2.698	2.778	2.858	2.938	3.028	3.108	3.188	3.278	3.358	3.438	3.518	3.608	3.688	3.768	3.858	3.938	4.018	4.098	4.188	4.268
32	2.228	2.318	2.398	2.478	2.558	2.648	2.728	2.808	2.898	2.978	3.058	3.138	3.228	3.308	3.388	3.478	3.558	3.638	3.718	3.808	3.888	3.968	4.058	4.138	4.218
34	2.178	2.268	2.348	2.428	2.518	2.598	2.678	2.758	2.848	2.928	3.008	3.098	3.178	3.258	3.338	3.428	3.508	3.588	3.678	3.758	3.838	3.918	4.008	4.088	4.168
36	2.138	2.218	2.298	2.378	2.468	2.548	2.628	2.718	2.798	2.878	2.958	3.048	3.128	3.208	3.298	3.378	3.458	3.538	3.628	3.708	3.788	3.868	3.958	4.038	4.118
38	2.088	2.168	2.248	2.338	2.418	2.498	2.578	2.668	2.748	2.828	2.918	2.998	3.078	3.158	3.248	3.328	3.408	3.488	3.578	3.658	3.738	3.828	3.908	3.988	4.068
40	2.038	2.118	2.198	2.288	2.368	2.448	2.538	2.618	2.698	2.778	2.868	2.948	3.028	3.108	3.198	3.278	3.358	3.448	3.528	3.608	3.688	3.778	3.858	3.938	4.028
42	1.988	2.068	2.158	2.238	2.318	2.398	2.488	2.568	2.648	2.728	2.818	2.898	2.978	3.068	3.148	3.228	3.308	3.398	3.478	3.558	3.648	3.728	3.808	3.888	3.978
44	1.938	2.018	2.108	2.188	2.268	2.348	2.438	2.518	2.598	2.688	2.768	2.848	2.928	3.018	3.098	3.178	3.268	3.348	3.428	3.508	3.598	3.678	3.758	3.848	3.928
46	1.888	1.968	2.058	2.138	2.218	2.308	2.388	2.468	2.548	2.638	2.718	2.798	2.888	2.968	3.048	3.128	3.218	3.298	3.378	3.468	3.548	3.628	3.708	3.798	3.878
48	1.838	1.928	2.008	2.088	2.168	2.258	2.338	2.418	2.508	2.588	2.668	2.748	2.838	2.918	2.998	3.088	3.168	3.248	3.328	3.408	3.498	3.578	3.658	3.748	3.828
50	1.788	1.878	1.958	2.038	2.128	2.208	2.288	2.368	2.458	2.538	2.618	2.708	2.788	2.868	2.948	3.038	3.118	3.198	3.278	3.368	3.448	3.528	3.618	3.698	3.778
52	1.748	1.828	1.908	1.988	2.078	2.158	2.238	2.328	2.408	2.488	2.568	2.658	2.738	2.818	2.898	2.988	3.068	3.148	3.238	3.318	3.398	3.478	3.568	3.648	3.728
54	1.698	1.778	1.858	1.948	2.028	2.108	2.188	2.278	2.358	2.438	2.518	2.608	2.688	2.768	2.858	2.938	3.018	3.098	3.188	3.268	3.348	3.438	3.518	3.598	3.678
56	1.648	1.728	1.808	1.898	1.978	2.058	2.138	2.228	2.308	2.388	2.478	2.558	2.638	2.718	2.808	2.888	2.968	3.058	3.138	3.218	3.298	3.388	3.468	3.548	3.638
58	1.598	1.678	1.758	1.848	1.928	2.008	2.098	2.178	2.258	2.338	2.428	2.508	2.588	2.678	2.758	2.838	2.918	3.008	3.088	3.168	3.258	3.338	3.418	3.498	3.588
60	1.548	1.628	1.708	1.798	1.878	1.958	2.048	2.128	2.208	2.298	2.378	2.458	2.538	2.628	2.708	2.788	2.878	2.958	3.038	3.118	3.208	3.288	3.368	3.448	3.538
62	1.498	1.578	1.668	1.748	1.828	1.918	1.998	2.078	2.158	2.248	2.328	2.408	2.498	2.578	2.658	2.738	2.828	2.908	2.988	3.068	3.158	3.238	3.318	3.408	3.488
64	1.448	1.538	1.618	1.698	1.778	1.868	1.948	2.028	2.118	2.198	2.278	2.358	2.448	2.528	2.608	2.688	2.778	2.858	2.938	3.028	3.108	3.188	3.268	3.358	3.438
66	1.398	1.488	1.568	1.648	1.738	1.818	1.898	1.978	2.068	2.148	2.228	2.308	2.398	2.478	2.558	2.648	2.728	2.808	2.888	2.978	3.058	3.138	3.228	3.308	3.388
68	1.358	1.438	1.518	1.598	1.688	1.768	1.848	1.928	2.018	2.098	2.178	2.268	2.348	2.428	2.508	2.598	2.678	2.758	2.848	2.928	3.008	3.088	3.178	3.258	3.338
70	1.308	1.388	1.468	1.548	1.638	1.718	1.798	1.888	1.968	2.048	2.128	2.218	2.298	2.378	2.468	2.548	2.628	2.708	2.798	2.878	2.958	3.048	3.128	3.208	3.288
72	1.258	1.338	1.418	1.508	1.588	1.668	1.748	1.838	1.918	1.998	2.088	2.168	2.248	2.328	2.418	2.498	2.578	2.668	2.748	2.828	2.908	2.998	3.078	3.158	3.238
74	1.208	1.288	1.368	1.458	1.538	1.618	1.708	1.788	1.868	1.948	2.038	2.118	2.198	2.288	2.368	2.448	2.528	2.618	2.698	2.778	2.858	2.948	3.028	3.108	3.198

*FEV₁ values are given in liters. The values listed here reflect the FEV₁ as listed in Table 5-4a minus 0.842 L (95% confidence interval). Adapted from Crapo et al.²

APPENDIX B

Pulmonary Function Table VII

Predicted Normal Forced Expiratory Volume in the First Second (FEV ₁) in Liters for Women*																									
Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18	2.96	3.02	3.09	3.16	3.23	3.30	3.37	3.43	3.50	3.57	3.64	3.71	3.78	3.85	3.91	3.98	4.05	4.12	4.19	4.26	4.32	4.39	4.46	4.53	4.60
20	2.91	2.97	3.04	3.11	3.18	3.25	3.32	3.38	3.45	3.52	3.59	3.66	3.73	3.79	3.86	3.93	4.00	4.07	4.14	4.20	4.27	4.34	4.41	4.48	4.55
22	2.85	2.92	2.99	3.06	3.13	3.20	3.26	3.33	3.40	3.47	3.54	3.61	3.67	3.74	3.81	3.88	3.95	4.02	4.09	4.15	4.22	4.29	4.36	4.43	4.50
24	2.80	2.87	2.94	3.01	3.08	3.15	3.21	3.28	3.35	3.42	3.49	3.56	3.62	3.69	3.76	3.83	3.90	3.97	4.03	4.10	4.17	4.24	4.31	4.38	4.44
26	2.75	2.82	2.89	2.96	3.03	3.09	3.16	3.23	3.30	3.37	3.44	3.50	3.57	3.64	3.71	3.78	3.85	3.91	3.98	4.05	4.12	4.19	4.26	4.33	4.39
28	2.70	2.77	2.84	2.91	2.97	3.04	3.11	3.18	3.25	3.32	3.39	3.45	3.52	3.59	3.66	3.73	3.80	3.86	3.93	4.00	4.07	4.14	4.21	4.27	4.34
30	2.65	2.72	2.79	2.86	2.92	2.99	3.06	3.13	3.20	3.27	3.33	3.40	3.47	3.54	3.61	3.68	3.74	3.81	3.88	3.95	4.02	4.09	4.15	4.22	4.29
32	2.60	2.67	2.74	2.80	2.87	2.94	3.01	3.08	3.15	3.21	3.28	3.35	3.42	3.49	3.56	3.63	3.69	3.76	3.83	3.90	3.97	4.04	4.10	4.17	4.24
34	2.55	2.62	2.68	2.75	2.82	2.89	2.96	3.03	3.10	3.16	3.23	3.30	3.37	3.44	3.51	3.57	3.64	3.71	3.78	3.85	3.92	3.98	4.05	4.12	4.19
36	2.50	2.57	2.63	2.70	2.77	2.84	2.91	2.98	3.04	3.11	3.18	3.25	3.32	3.39	3.45	3.52	3.59	3.66	3.73	3.80	3.87	3.93	4.00	4.07	4.14
38	2.45	2.51	2.58	2.65	2.72	2.79	2.86	2.92	2.99	3.06	3.13	3.20	3.27	3.34	3.40	3.47	3.54	3.61	3.68	3.75	3.81	3.88	3.95	4.02	4.09
40	2.40	2.46	2.53	2.60	2.67	2.74	2.81	2.87	2.94	3.01	3.08	3.15	3.22	3.28	3.35	3.42	3.49	3.56	3.63	3.69	3.76	3.83	3.90	3.97	4.04
42	2.34	2.41	2.48	2.55	2.62	2.69	2.75	2.82	2.89	2.96	3.03	3.10	3.17	3.23	3.30	3.37	3.44	3.51	3.58	3.64	3.71	3.78	3.85	3.92	3.99
44	2.29	2.36	2.43	2.50	2.57	2.64	2.70	2.77	2.84	2.91	2.98	3.05	3.11	3.18	3.25	3.32	3.39	3.46	3.52	3.59	3.66	3.73	3.80	3.87	3.93
46	2.24	2.31	2.38	2.45	2.52	2.58	2.65	2.72	2.79	2.86	2.93	2.99	3.06	3.13	3.20	3.27	3.34	3.41	3.47	3.54	3.61	3.68	3.75	3.82	3.88
48	2.19	2.26	2.33	2.40	2.46	2.53	2.60	2.67	2.74	2.81	2.88	2.94	3.01	3.08	3.15	3.22	3.29	3.35	3.42	3.49	3.56	3.63	3.70	3.76	3.83
50	2.14	2.21	2.28	2.35	2.41	2.48	2.55	2.62	2.69	2.76	2.82	2.89	2.96	3.03	3.10	3.17	3.23	3.30	3.37	3.44	3.51	3.58	3.65	3.71	3.78
52	2.09	2.16	2.23	2.29	2.36	2.43	2.50	2.57	2.64	2.70	2.77	2.84	2.91	2.98	3.05	3.12	3.18	3.25	3.32	3.39	3.46	3.53	3.59	3.66	3.73
54	2.04	2.11	2.18	2.24	2.31	2.38	2.45	2.52	2.59	2.65	2.72	2.79	3.86	2.93	3.00	3.06	3.13	3.20	3.27	3.34	3.41	3.47	3.54	3.61	3.68
56	1.99	2.06	2.12	2.19	2.26	2.33	2.40	2.47	2.53	2.60	2.67	2.74	2.81	2.88	2.94	3.01	3.08	3.15	3.22	3.29	3.36	3.42	3.49	3.56	3.63
58	1.94	2.00	2.07	2.14	2.21	2.28	2.35	2.42	2.48	2.55	2.62	2.69	2.76	2.83	2.89	2.96	3.03	3.10	3.17	3.24	3.30	3.37	3.44	3.51	3.58
60	1.89	1.95	2.02	2.09	2.16	2.23	2.30	2.36	2.43	2.50	2.57	2.64	2.71	2.77	2.84	2.91	2.98	3.05	3.12	3.18	3.25	3.32	3.39	3.46	3.53
62	1.83	1.90	1.97	2.04	2.11	2.18	2.24	2.31	2.38	2.45	2.52	2.59	2.66	2.72	2.79	2.86	2.93	3.00	3.07	3.13	3.20	3.27	3.34	3.41	3.48
64	1.78	1.85	1.92	1.99	2.06	2.13	2.19	2.26	2.33	2.40	2.47	2.54	2.60	2.67	2.74	2.81	2.88	2.95	3.01	3.08	3.15	3.22	3.29	3.36	3.42
66	1.73	1.80	1.87	1.94	2.01	2.07	2.14	2.21	2.28	2.35	2.42	2.48	2.55	2.62	2.69	2.76	2.83	2.90	2.96	3.03	3.10	3.17	3.24	3.31	3.37
68	1.68	1.75	1.82	1.89	1.95	2.02	2.09	2.16	2.23	2.30	2.37	2.43	2.50	2.57	2.64	2.71	2.78	2.84	2.91	2.98	3.05	3.12	3.19	3.25	3.32
70	1.63	1.70	1.77	1.84	1.90	1.97	2.04	2.11	2.18	2.25	2.31	2.38	2.45	2.52	2.59	2.66	2.72	2.79	2.86	2.93	3.00	3.07	3.14	3.20	3.27
72	1.58	1.65	1.72	1.78	1.85	1.92	1.99	2.06	2.13	2.19	2.26	2.33	2.40	2.47	2.54	2.61	2.67	2.74	2.81	2.88	2.95	3.02	3.08	3.15	3.22
74	1.53	1.60	1.67	1.73	1.80	1.87	1.94	2.01	2.08	2.14	2.21	2.28	2.35	2.42	2.49	2.55	2.62	2.69	2.76	2.83	2.90	2.96	3.03	3.10	3.17

*FEV₁ in liters = 0.0342 H – 0.0225 A – 1.578, R² = 0.80; SEE = 0.326; 95% confidence interval = 0.561. Definitions of abbreviations: R² = coefficient of determination; SEE = standard error of estimate; H = height in cm; A = age in years. BTPS = body temperature, ambient pressure, and saturated with water vapor at these conditions. Adapted from Crapo et al.²

APPENDIX B

Pulmonary Function Table VIII

Predicted Lower Limit of Normal Forced Expiratory Volume in the First Second (FEV₁) for Women*

Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18	2.399	2.459	2.529	2.599	2.669	2.739	2.809	2.869	2.939	3.009	3.079	3.149	3.219	3.289	3.349	3.419	3.489	3.559	3.629	3.699	3.759	3.829	3.899	3.969	4.039
20	2.349	2.409	2.479	2.549	2.619	2.689	2.759	2.819	2.889	2.959	3.029	3.099	3.169	3.229	3.299	3.369	3.439	3.509	3.579	3.639	3.709	3.779	3.849	3.919	3.989
22	2.289	2.359	2.429	2.499	2.569	2.639	2.699	2.769	2.839	2.909	2.979	3.049	3.109	3.179	3.249	3.319	3.389	3.459	3.529	3.589	3.659	3.729	3.799	3.869	3.939
24	2.239	2.309	2.379	2.449	2.519	2.589	2.649	2.719	2.789	2.859	2.929	2.999	3.059	3.129	3.199	3.269	3.339	3.409	3.469	3.539	3.609	3.679	3.749	3.819	3.879
26	2.189	2.259	2.329	2.399	2.469	2.529	2.599	2.669	2.739	2.809	2.879	2.939	3.009	3.079	3.149	3.219	3.289	3.349	3.419	3.489	3.559	3.629	3.699	3.769	3.829
28	2.139	2.209	2.279	2.349	2.409	2.479	2.549	2.619	2.689	2.759	2.829	2.889	2.959	3.029	3.099	3.169	3.239	3.299	3.369	3.439	3.509	3.579	3.649	3.709	3.779
30	2.089	2.156	2.229	2.299	2.359	2.429	2.499	2.569	2.639	2.709	2.769	2.839	2.909	2.979	3.049	3.119	3.179	3.249	3.319	3.389	3.459	3.529	3.589	3.659	3.729
32	2.039	2.109	2.179	2.239	2.309	2.379	2.449	2.519	2.589	2.649	2.719	2.789	2.859	2.929	2.999	3.069	3.129	3.199	3.269	3.339	3.409	3.479	3.539	3.609	3.679
34	1.989	2.059	2.119	2.189	2.259	2.329	2.399	2.469	2.539	2.599	2.669	2.739	2.809	2.879	2.949	3.009	3.079	3.149	3.219	3.289	3.359	3.419	3.489	3.559	3.629
36	1.939	2.009	2.069	2.139	2.209	2.279	2.349	2.419	2.479	2.549	2.619	2.689	2.759	2.829	2.889	2.959	3.029	3.099	3.169	3.239	3.309	3.369	3.439	3.509	3.579
38	1.889	1.949	2.019	2.089	2.159	2.229	2.299	2.359	2.429	2.499	2.569	2.639	2.709	2.779	2.839	2.909	2.979	3.049	3.119	3.189	3.249	3.319	3.389	3.459	3.529
40	1.839	1.899	1.969	2.039	2.109	2.179	2.249	2.309	2.379	2.449	2.519	2.589	2.659	2.719	2.789	2.859	2.929	2.999	3.069	3.129	3.199	3.269	3.339	3.409	3.479
42	1.779	1.849	1.919	1.989	2.059	2.129	2.189	2.259	2.329	2.399	2.469	2.539	2.609	2.669	2.739	2.809	2.879	2.949	3.019	3.079	3.149	3.219	3.289	3.359	3.429
44	1.729	1.799	1.869	1.939	2.009	2.079	2.139	2.209	2.279	2.349	2.419	2.489	2.549	2.619	2.689	2.759	2.829	2.899	2.959	3.029	3.099	3.169	3.239	3.309	3.369
46	1.679	1.749	1.819	1.889	1.959	2.019	2.089	2.159	2.229	2.299	2.369	2.429	2.499	2.569	2.639	2.709	2.779	2.849	2.909	2.979	3.049	3.119	3.189	3.259	3.319
48	1.629	1.699	1.769	1.839	1.899	1.969	2.039	2.109	2.179	2.249	2.319	2.379	2.449	2.519	2.589	2.659	2.729	2.789	2.859	2.929	2.999	3.069	3.139	3.199	3.269
50	1.579	1.649	1.719	1.789	1.849	1.919	1.989	2.059	2.129	2.199	2.259	2.329	2.399	2.469	2.539	2.609	2.669	2.739	2.809	2.879	2.949	3.019	3.089	3.149	3.219
52	1.529	1.599	1.669	1.729	1.799	1.869	1.939	2.009	2.079	2.139	2.209	2.279	2.349	2.419	2.489	2.559	2.619	2.689	2.759	2.829	2.899	2.969	3.029	3.099	3.169
54	1.479	1.549	1.619	1.679	1.749	1.819	1.889	1.959	2.029	2.089	2.159	2.229	2.299	2.369	2.439	2.499	2.569	2.639	2.709	2.779	2.849	2.909	2.979	3.049	3.119
56	1.429	1.499	1.559	1.629	1.699	1.769	1.839	1.909	1.969	2.039	2.109	2.179	2.249	2.319	2.379	2.449	2.519	2.589	2.659	2.729	2.799	2.859	2.929	2.999	3.069
58	1.379	1.439	1.509	1.579	1.649	1.719	1.789	1.859	1.919	1.989	2.059	2.129	2.199	2.269	2.329	2.399	2.469	2.539	2.609	2.679	2.739	2.809	2.879	2.949	3.019
60	1.329	1.389	1.459	1.529	1.599	1.669	1.739	1.799	1.869	1.939	2.009	2.079	2.149	2.209	2.279	2.349	2.419	2.489	2.559	2.619	2.689	2.759	2.829	2.899	2.969
62	1.269	1.339	1.409	1.479	1.549	1.619	1.679	1.749	1.819	1.889	1.959	2.029	2.099	2.159	2.229	2.299	2.369	2.439	2.509	2.569	2.639	2.709	2.779	2.849	2.919
64	1.219	1.289	1.359	1.429	1.499	1.569	1.629	1.699	1.769	1.839	1.909	1.979	2.039	2.109	2.179	2.249	2.319	2.389	2.449	2.519	2.589	2.659	2.729	2.799	2.859
66	1.169	1.239	1.309	1.379	1.449	1.509	1.579	1.649	1.719	1.789	1.859	1.919	1.989	2.059	2.129	2.199	2.269	2.339	2.399	2.469	2.539	2.609	2.679	2.749	2.809
68	1.119	1.189	1.259	1.329	1.389	1.459	1.529	1.599	1.669	1.739	1.809	1.869	1.939	2.009	2.079	2.149	2.219	2.279	2.349	2.419	2.489	2.559	2.629	2.689	2.759
70	1.069	1.139	1.209	1.279	1.339	1.409	1.479	1.549	1.619	1.689	1.749	1.819	1.889	1.959	2.029	2.099	2.159	2.229	2.299	2.369	2.439	2.509	2.579	2.639	2.709
72	1.019	1.089	1.159	1.219	1.289	1.359	1.429	1.499	1.569	1.629	1.699	1.769	1.839	1.909	1.979	2.049	2.109	2.179	2.249	2.319	2.389	2.459	2.519	2.589	2.659
74	0.969	1.039	1.109	1.169	1.239	1.309	1.379	1.449	1.519	1.579	1.649	1.719	1.789	1.859	1.929	1.989	2.059	2.129	2.199	2.269	2.339	2.399	2.469	2.539	2.609

*FEV₁ values are given in liters. The values listed here reflect the FEV₁ as listed in Table 5-5a minus 0.561 L (95% confidence interval). Adapted from Crapo et al.²

APPENDIX B

Pulmonary Function Table IX

Predicted Normal Diffusing Capacity for Carbon Monoxide (Dco) for Men (STPD)*

Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18	29.8	30.6	31.4	32.2	33.1	33.9	34.7	35.5	36.3	37.1	38.0	38.8	39.6	40.4	41.2	42.1	42.9	43.7	44.5	45.4	46.2	47.0	47.8	48.6	49.4
20	29.3	30.2	31.0	31.8	32.6	33.4	34.3	35.1	35.9	36.7	37.5	38.4	39.2	40.0	40.8	41.6	42.5	43.3	44.1	44.9	45.7	46.6	47.4	48.2	49.0
22	28.9	29.7	30.6	31.4	32.2	33.0	33.8	34.7	35.5	36.3	37.1	37.9	38.8	39.6	40.4	41.2	42.0	42.9	43.7	44.5	45.3	46.1	47.0	47.8	48.6
24	28.5	29.3	30.1	31.0	31.8	32.6	33.4	34.2	35.1	35.9	36.7	37.5	38.3	39.2	40.0	40.8	41.6	42.4	43.3	44.1	44.9	45.7	46.5	47.4	48.2
26	28.1	28.9	29.7	30.5	31.4	32.2	33.0	33.8	34.6	35.5	36.3	37.1	37.9	38.7	39.6	40.4	41.2	42.0	42.8	43.7	44.5	45.3	46.1	46.9	47.8
28	27.7	28.5	29.3	30.1	30.9	31.8	32.6	33.4	34.2	35.0	35.9	36.7	37.5	38.3	39.1	40.0	40.8	41.6	42.4	43.2	44.1	44.9	45.7	46.5	47.3
30	27.2	28.1	28.9	29.7	30.5	31.3	32.2	33.0	33.8	34.6	35.4	36.3	37.1	37.9	38.7	39.6	40.4	41.2	42.0	42.8	43.6	44.5	45.3	46.1	46.9
32	26.8	27.6	28.5	29.3	30.1	30.9	31.7	32.6	33.4	34.2	35.0	35.8	36.7	37.5	38.3	39.1	39.9	40.8	41.6	42.4	43.2	44.1	44.9	45.7	46.5
34	26.4	27.2	28.1	28.9	29.7	30.5	31.3	32.1	33.0	33.8	34.6	35.4	36.2	37.1	37.9	38.7	39.5	40.4	41.2	42.0	42.8	43.6	44.4	45.3	46.1
36	26.0	26.8	27.6	28.4	29.3	30.1	30.9	31.7	32.5	33.4	34.2	35.0	35.8	36.6	37.5	38.3	39.1	39.9	40.7	41.6	42.4	43.2	44.0	44.8	45.7
38	25.6	26.4	27.2	28.0	28.8	29.7	30.5	31.3	32.1	32.9	33.8	34.6	35.4	36.2	37.0	37.9	38.7	39.5	40.3	41.1	42.0	42.8	43.6	44.4	45.2
40	25.1	26.0	26.8	27.6	28.4	29.2	30.1	30.9	31.7	32.5	33.3	34.2	35.0	35.8	36.6	37.4	38.3	39.1	39.9	40.7	41.5	42.4	43.2	44.0	44.8
42	24.7	25.5	26.4	27.2	28.0	28.8	29.6	30.5	31.3	32.1	32.9	33.7	34.6	35.4	36.2	37.0	37.8	38.7	39.5	40.3	41.1	41.9	42.8	43.6	44.4
44	24.3	25.1	25.9	26.8	27.6	28.4	29.2	30.0	30.9	31.7	32.5	33.3	34.1	35.0	35.8	36.6	37.4	38.2	39.1	39.9	40.7	41.5	42.3	43.2	44.0
46	23.9	24.7	25.5	26.3	27.2	28.0	28.8	29.6	30.4	31.3	32.1	32.9	33.7	34.6	35.4	36.2	37.0	37.8	38.6	39.5	40.3	41.1	41.9	42.7	43.6
48	23.5	24.3	25.1	25.9	26.7	27.6	28.4	29.2	30.0	30.8	31.7	32.5	33.3	34.1	34.9	35.8	36.6	37.4	38.2	39.1	39.9	40.7	41.5	42.3	43.1
50	23.1	23.9	24.7	25.5	26.3	27.1	28.0	28.8	29.6	30.4	31.2	32.1	32.9	33.7	34.5	35.4	36.2	37.0	37.8	38.6	39.4	40.3	41.1	41.9	42.7
52	22.6	23.4	24.3	25.1	25.9	26.7	27.6	28.4	29.2	30.0	30.8	31.6	32.5	33.3	34.1	34.9	35.7	36.6	37.4	38.2	39.0	39.9	40.7	41.6	42.3
54	22.2	23.0	23.8	24.7	25.5	26.3	27.1	27.9	28.8	29.6	30.4	31.2	32.0	32.9	33.7	34.5	35.3	36.1	37.0	37.8	38.6	39.4	40.2	41.1	41.9
56	21.8	22.6	23.4	24.2	25.1	25.9	26.7	27.5	28.3	29.2	30.0	30.8	31.6	32.4	33.3	34.1	34.9	35.7	36.5	37.4	38.2	39.0	39.8	40.6	41.5
58	21.4	22.2	23.0	23.8	24.6	25.5	26.3	27.1	27.9	28.7	29.6	30.4	31.2	32.0	32.8	33.7	34.5	35.3	36.1	36.9	37.8	38.6	39.4	40.2	41.0
60	20.9	21.8	22.6	23.4	24.2	25.0	25.9	26.7	27.5	28.3	29.1	30.0	30.8	31.6	32.4	33.2	34.1	34.9	35.7	36.5	37.3	38.2	39.0	39.8	40.6
62	20.5	21.3	22.2	23.0	23.8	24.6	25.4	26.3	27.1	27.9	28.7	29.5	30.4	31.2	32.0	32.8	33.6	34.5	35.3	36.1	36.9	37.7	38.6	39.4	40.2
64	20.1	20.9	21.7	22.6	23.4	24.2	25.0	25.8	26.7	27.5	28.3	29.1	29.9	30.8	31.6	32.4	33.2	34.1	34.9	35.7	36.5	37.3	38.1	39.0	39.8
66	19.7	20.5	21.3	22.1	23.0	23.8	24.6	25.4	26.2	27.1	27.9	28.7	29.5	30.4	31.2	32.0	32.8	33.6	34.4	35.3	36.1	36.9	37.7	38.6	39.4
68	19.3	20.1	20.9	21.7	22.6	23.4	24.2	25.0	25.8	26.6	27.5	28.3	29.1	29.9	30.7	31.6	32.4	38.2	34.0	34.9	35.7	36.5	37.3	38.1	38.9
70	18.8	19.7	20.5	21.3	22.1	22.9	23.8	24.6	25.4	26.2	27.0	27.9	28.7	29.5	30.3	31.1	32.0	32.8	33.6	34.4	35.2	36.1	36.9	37.7	38.5
72	18.4	19.2	20.1	20.9	21.7	22.5	23.3	24.2	25.0	25.8	26.6	27.4	28.3	29.1	29.9	30.7	31.5	32.4	33.2	34.0	34.8	35.6	36.5	37.3	38.1
74	18.0	18.8	19.6	20.5	21.3	22.1	22.9	23.7	24.6	25.4	26.2	27.0	27.8	28.7	29.5	30.3	31.1	31.9	32.8	33.6	34.4	35.2	36.0	36.9	37.7

*Dco in mL/min/mm Hg = $0.410 H - 0.210 A - 26.31$. $R^2 = 0.60$; SEE = 4.82; 95% confidence interval = 8.2. Definitions of abbreviations: R^2 = coefficient of determination; SEE = standard error of estimate; H = height in cm; A = age in years. STPD = temperature 0°C, pressure 760 mm Hg, and dry (0 water vapor). The regression analysis has been normalized to a standard hemoglobin of 146 g/L by means of Cotes' modification of the relationship described by Roughton and Forster. Adapted from Crapo and Morris.⁹

APPENDIX B

Pulmonary Function Table X

Predicted Lower Limit of Normal Diffusing Capacity for Carbon Monoxide (Dco) for Men*

Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18 20 22 24 26	21.6	22.4	23.2	24.0	24.9	25.7	26.5	27.3	28.1	28.9	29.8	30.6	31.4	32.2	33.0	33.9	34.7	35.5	36.3	37.2	38.0	38.8	39.6	40.4	41.2
	21.1	22.0	22.8	23.6	24.4	25.2	26.1	26.9	27.7	28.5	29.3	30.2	31.0	31.8	32.6	33.4	34.3	35.1	35.9	36.7	37.5	38.4	39.2	40.0	40.8
	20.7	21.5	22.4	23.2	24.0	24.8	25.6	26.5	27.3	28.1	28.9	29.7	30.6	31.4	32.2	33.0	33.8	34.7	35.5	36.3	37.1	37.9	38.8	39.6	40.4
	20.3	21.1	21.9	22.8	23.6	24.4	25.2	26.0	26.9	27.7	28.5	29.3	30.1	31.0	31.8	32.6	33.4	34.2	35.1	35.9	36.7	37.5	38.3	39.2	40.0
	19.9	20.7	21.5	22.3	23.2	24.0	24.8	25.6	26.4	27.3	28.1	28.9	29.7	30.5	31.4	32.2	33.0	33.8	34.6	35.5	36.3	37.1	37.9	38.7	39.6
28 30 32 34 36	19.5	20.3	21.1	21.9	22.7	23.6	24.4	25.2	26.0	26.8	27.7	28.5	29.3	30.1	30.9	31.8	32.6	33.4	34.2	35.0	35.9	36.7	37.5	38.3	39.1
	19.0	19.9	20.7	21.5	22.3	23.1	24.0	24.8	25.6	26.4	27.2	28.1	28.9	29.7	30.5	31.4	32.2	33.0	33.8	34.6	35.4	36.3	37.1	37.9	38.7
	18.6	19.4	20.3	21.1	21.9	22.7	23.5	24.4	25.2	26.0	26.8	27.6	28.5	29.3	30.1	30.9	31.7	32.6	33.4	34.2	35.0	35.9	36.7	37.5	38.3
	18.2	19.0	19.9	20.7	21.5	22.3	23.1	23.9	24.8	25.6	26.4	27.2	28.0	28.9	29.7	30.5	31.3	32.2	33.0	33.8	34.6	35.4	36.2	37.1	37.9
	17.8	18.6	19.4	20.2	21.1	21.9	22.7	23.5	24.3	25.2	26.0	26.8	27.6	28.4	29.3	30.1	30.9	31.7	32.5	33.4	34.2	35.0	35.8	36.6	37.5
38 40 42 44 46	17.4	18.2	19.0	19.8	20.6	21.5	22.3	23.1	23.9	24.7	25.6	26.4	27.2	28.0	28.8	29.7	30.5	31.3	32.1	32.9	33.8	34.6	35.4	36.2	37.0
	16.9	17.8	18.6	19.4	20.2	21.0	21.9	22.7	23.5	24.3	25.1	26.0	26.8	27.6	28.4	29.2	30.1	30.9	31.7	32.5	33.3	34.2	35.0	35.8	36.6
	16.5	17.3	18.2	19.0	19.8	20.6	21.4	22.3	23.1	23.9	24.7	25.5	26.4	27.2	28.0	28.8	29.6	30.5	31.3	32.1	32.9	33.7	34.6	35.4	36.2
	16.1	16.9	17.7	18.6	19.4	20.2	21.0	21.8	22.7	23.5	24.3	25.1	25.9	26.8	27.6	28.4	29.2	30.0	30.9	31.7	32.5	33.3	34.1	35.0	35.8
	15.7	16.5	17.3	18.1	19.0	19.8	20.6	21.4	22.2	23.1	23.9	24.7	25.5	26.4	27.2	28.0	28.8	29.6	30.4	31.3	32.1	32.9	33.7	34.5	35.4
48 50 52 54 56	15.3	16.1	16.9	17.7	18.5	19.4	20.2	21.0	21.8	22.6	23.5	24.3	25.1	25.9	26.7	27.6	28.4	29.2	30.0	30.9	31.7	32.5	33.3	34.1	34.9
	14.9	15.7	16.5	17.3	18.1	18.9	19.8	20.6	21.4	22.2	23.0	23.9	24.7	25.5	26.3	27.2	28.0	28.8	29.6	30.4	31.2	32.1	32.9	33.7	34.5
	14.4	15.2	16.1	16.9	17.7	18.5	19.4	20.2	21.0	21.8	22.6	23.4	24.3	25.1	25.9	26.7	27.5	28.4	29.2	30.0	30.8	31.7	32.5	33.4	34.1
	14.0	14.8	15.6	16.5	17.3	18.1	18.9	19.7	20.6	21.4	22.2	23.0	23.8	24.7	25.5	26.3	27.1	27.9	28.8	29.6	30.4	31.2	32.0	32.9	33.7
	13.6	14.4	15.2	16.0	16.9	17.7	18.5	19.3	20.1	21.0	21.8	22.6	23.4	24.2	25.1	25.9	26.7	27.5	28.3	29.2	30.0	30.8	31.6	32.4	33.3
58 60 62 64 66	13.2	14.0	14.8	15.6	16.4	17.3	18.1	18.9	19.7	20.5	21.4	22.2	23.0	23.8	24.6	25.5	26.3	27.1	27.9	28.7	29.6	30.4	31.2	32.0	32.8
	12.7	13.6	14.4	15.2	16.0	16.8	17.7	18.5	19.3	20.1	20.9	21.8	22.6	23.4	24.2	25.0	25.9	26.7	27.5	28.3	29.1	30.0	30.8	31.6	32.4
	12.3	13.1	14.0	14.8	15.6	16.4	17.2	18.1	18.9	19.7	20.5	21.3	22.2	23.0	23.8	24.6	25.4	26.3	27.1	27.9	28.7	29.5	30.4	31.2	32.0
	11.9	12.7	13.5	14.4	15.2	16.0	16.8	17.6	18.5	19.3	20.1	20.9	21.7	22.6	23.4	24.2	25.0	25.9	26.7	27.5	28.3	29.1	29.9	30.8	31.6
	11.5	12.3	13.1	13.9	14.8	15.6	16.4	17.2	18.0	18.9	19.7	20.5	21.3	22.2	23.0	23.8	24.6	25.4	26.2	27.1	27.9	28.7	29.5	30.4	31.2
68 70 72 74	11.1	11.9	12.7	13.5	14.4	15.2	16.0	16.8	17.6	18.4	19.3	20.1	20.9	21.7	22.5	23.4	24.2	30.0	25.8	26.7	27.5	28.3	29.1	29.9	30.7
	10.6	11.5	12.3	13.1	13.9	14.7	15.6	16.4	17.2	18.0	18.8	19.7	20.5	21.3	22.1	22.9	23.8	24.6	25.4	26.2	27.0	27.9	28.7	29.5	30.3
	10.2	11.0	11.9	12.7	13.5	14.3	15.1	16.0	16.8	17.6	18.4	19.2	20.1	20.9	21.7	22.5	23.3	24.2	25.0	25.8	26.6	27.4	28.3	29.1	29.9
	9.8	10.6	11.4	12.3	13.1	13.9	14.7	15.5	16.4	17.2	18.0	18.8	19.6	20.5	21.3	22.1	22.9	23.7	24.6	25.4	26.2	27.0	27.8	28.7	29.5

*Dco values are given in mL/min/mm Hg. The values listed here reflect the Dco as listed in Table 5-6a minus 8.2 (95% confidence interval). Adapted from Crapo and Morris.⁹

APPENDIX B

Pulmonary Function Table XI

Predicted Normal Diffusing Capacity for Carbon Monoxide (Dco) for Women (STPD)*

Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18 20 22 24 26	26.0	26.5	27.0	27.6	28.1	28.6	29.2	29.7	30.2	30.8	31.3	31.9	32.4	32.9	33.5	34.0	34.5	35.1	35.6	36.1	36.7	37.2	37.7	38.3	38.8
	25.7	26.2	26.7	27.3	27.8	28.4	28.9	29.4	30.0	30.5	31.0	31.6	32.1	32.6	33.2	33.7	34.2	34.8	35.3	35.8	36.4	36.9	37.4	38.0	38.5
	25.4	25.9	26.5	27.0	27.5	28.1	28.6	29.1	29.7	30.2	30.7	31.3	31.8	32.3	32.9	33.4	33.9	34.5	35.0	35.5	36.1	36.6	37.1	37.7	38.2
	25.1	25.6	26.2	26.7	27.2	27.8	28.3	28.8	29.4	29.9	30.4	31.0	31.5	32.0	32.6	33.1	33.6	34.2	34.7	35.2	35.8	36.3	36.8	37.4	37.9
	24.8	25.3	25.9	26.4	26.9	27.5	28.0	28.5	29.1	29.6	30.1	30.7	31.2	31.7	32.3	32.8	33.3	33.9	34.4	34.9	35.5	36.0	36.5	37.1	37.6
28 30 32 34 36	24.5	25.0	25.6	26.1	26.6	27.2	27.7	28.2	28.8	29.3	29.8	30.4	30.9	31.4	32.0	32.5	33.0	33.6	34.1	34.6	35.2	35.7	36.2	36.8	37.3
	24.2	24.7	25.3	25.8	26.3	26.9	27.4	27.9	28.5	29.0	29.5	30.1	30.6	31.1	31.7	32.2	32.7	33.3	33.8	34.3	34.9	35.4	35.9	36.5	37.0
	23.9	24.4	25.0	25.5	26.0	26.6	27.1	27.6	28.2	28.7	29.2	29.8	30.3	30.8	31.4	31.9	32.4	33.0	33.5	34.1	34.6	35.1	35.7	36.2	36.7
	23.6	24.1	24.7	25.2	25.7	26.3	26.8	27.3	27.9	28.4	28.9	29.5	30.0	30.6	31.1	31.6	33.2	32.7	33.2	33.8	34.3	34.8	35.4	35.9	36.4
	23.3	23.8	24.4	24.9	25.4	26.0	26.5	27.1	27.6	28.1	28.7	29.2	29.7	30.3	30.8	31.3	31.9	32.4	32.9	33.5	34.0	34.5	35.1	35.6	36.1
38 40 42 44 46	23.0	23.6	24.1	24.6	25.2	25.7	26.2	26.8	27.3	27.8	28.4	28.9	29.4	30.0	30.5	31.0	31.6	32.1	32.6	33.2	33.7	34.2	34.8	35.3	35.8
	22.7	23.3	23.8	24.3	24.9	25.4	25.9	26.5	27.0	27.5	28.1	28.6	29.1	29.7	30.2	30.7	31.3	31.8	32.3	32.9	33.4	33.9	34.5	35.0	35.5
	22.4	23.0	23.5	24.0	24.6	25.1	25.6	26.2	26.7	27.2	27.8	28.3	28.8	29.4	29.9	30.4	31.0	31.5	32.0	32.6	33.1	33.6	34.2	34.7	35.2
	22.1	22.7	23.2	23.7	24.3	24.3	25.3	25.9	26.4	26.9	27.5	28.0	28.5	29.1	29.6	30.1	30.7	31.2	31.7	32.3	32.8	33.3	33.9	34.4	34.9
	21.8	22.4	22.9	23.4	24.0	24.5	25.0	25.6	26.1	26.6	27.2	27.7	28.2	28.8	29.3	29.8	30.4	30.9	31.4	32.0	32.5	33.0	33.6	34.1	34.6
48 50 52 54 56	21.5	22.1	22.6	23.1	23.7	24.2	24.7	25.3	25.8	26.3	26.9	27.4	27.9	28.5	29.0	29.5	30.1	30.6	31.1	31.7	32.2	32.8	33.3	33.8	34.4
	21.2	21.8	22.3	22.8	23.4	23.9	24.4	25.0	25.5	26.0	26.6	27.1	27.6	28.2	28.7	29.3	29.8	30.3	30.9	31.4	31.9	32.5	33.0	33.5	34.1
	20.9	21.5	22.0	22.5	23.1	23.5	24.1	24.7	25.2	25.8	26.3	26.8	27.4	27.9	28.4	29.0	29.5	30.0	30.6	31.1	31.6	32.2	32.7	33.2	33.8
	20.6	21.2	21.7	22.3	22.8	23.3	23.9	24.4	24.9	25.5	26.0	26.5	27.1	27.6	28.1	28.7	29.2	29.7	30.3	30.8	31.3	31.9	32.4	32.9	33.5
	20.4	20.9	21.4	22.0	22.5	23.0	23.6	24.1	24.6	25.2	25.7	26.2	26.8	27.3	27.8	28.4	28.9	29.4	30.0	30.5	31.0	31.6	32.1	32.6	33.2
58 60 62 64 66	20.1	20.6	21.1	21.7	22.2	22.7	23.3	23.8	24.3	24.9	25.4	25.9	26.5	27.0	27.5	28.1	28.6	29.1	29.7	30.2	30.7	31.3	31.8	32.3	32.9
	19.8	20.3	20.8	21.4	21.9	22.4	23.0	23.5	24.0	24.6	25.1	25.6	26.2	26.7	27.2	27.8	28.3	28.8	29.4	29.9	30.4	31.0	31.5	32.0	32.6
	19.5	20.0	20.5	21.1	21.6	22.1	22.7	23.2	23.7	24.3	24.8	25.3	25.9	26.4	26.9	27.5	28.0	28.5	29.1	29.6	30.1	30.7	31.2	31.7	32.3
	19.2	19.7	20.2	20.8	21.3	21.8	22.4	22.9	23.4	24.0	24.5	25.0	25.6	26.1	26.6	27.2	27.7	28.2	28.8	29.3	29.8	30.4	30.9	31.5	32.0
	18.9	19.4	19.9	20.5	21.0	21.5	22.1	22.6	23.1	23.7	24.2	24.1	25.3	25.8	26.3	26.9	27.4	28.0	28.5	29.0	29.6	30.1	30.6	31.2	31.7
68 70 72 74	18.6	19.1	19.6	20.2	20.7	21.2	21.8	22.3	22.8	23.4	23.9	24.5	25.0	25.5	26.1	26.6	27.1	27.7	28.2	28.7	29.3	29.8	30.3	30.9	31.4
	18.3	18.8	19.3	19.9	20.4	21.0	21.5	22.0	22.6	23.1	23.5	24.2	24.7	25.2	25.8	26.3	26.8	27.4	27.9	28.4	29.0	29.5	30.0	30.6	31.1
	18.0	18.5	19.1	19.6	20.1	20.7	21.2	21.1	22.3	22.8	23.3	23.9	24.4	24.9	25.5	26.0	26.5	27.1	27.6	28.1	28.7	29.2	29.7	30.3	30.8
	17.7	18.2	18.8	19.3	19.8	20.4	20.9	21.4	22.0	22.5	23.0	23.6	24.1	24.6	25.2	25.7	26.2	26.8	27.3	27.8	28.4	28.9	29.4	30.0	30.5

*Dco in mL/min/mm Hg = $0.267 H - 0.148 A - 10.34$. $R^2 = 0.60$; SEE = 3.40; 95% confidence interval = 5.74. Definitions of abbreviations: R^2 = coefficient of determination; SEE = standard error of estimate; H = height in cm; A = age in years. STPD = temperature 0°C, pressure 760 mm Hg, and dry (0 water vapor). The regression analysis has been normalized to a standard hemoglobin of 125 g/L (the original equation was normalized to a standard hemoglobin of 146 g/L) by means of Cotes' modification of the relationship described in Roughton and Forster. Adapted from Crapo and Morris.⁹

APPENDIX B

Pulmonary Function Table XII

Predicted Lower Limit of Normal Diffusing Capacity for Carbon Monoxide (Dco) for Women*

Age	Height (cm)																								
	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194
18	20.26	20.76	21.26	21.86	22.36	22.86	23.46	23.96	24.46	25.06	25.56	26.16	26.66	27.16	27.76	28.26	28.76	29.36	29.86	30.36	30.96	31.46	31.96	32.56	33.06
20	19.96	20.46	20.96	21.56	22.06	22.66	23.16	23.66	24.26	24.76	25.26	25.86	26.36	26.86	27.46	27.96	28.46	29.06	29.56	30.06	30.66	31.16	31.66	32.26	32.76
22	19.66	20.16	20.76	21.26	21.76	22.36	22.86	23.36	23.96	24.46	24.96	25.56	26.06	26.56	27.16	27.66	28.16	28.76	29.26	29.76	30.36	30.86	31.36	31.96	32.46
24	19.36	19.86	20.46	20.96	21.46	22.06	22.56	23.06	23.66	24.16	24.66	25.26	25.76	26.26	26.86	27.36	27.86	28.46	28.96	29.46	30.06	30.56	31.06	31.66	32.16
26	19.06	19.56	20.16	20.66	21.16	21.76	22.26	22.76	23.36	23.86	24.36	24.96	25.46	25.96	26.56	27.06	27.56	28.16	28.66	29.16	29.76	30.26	30.76	31.36	31.86
28	18.76	19.26	19.86	20.36	20.86	21.46	21.96	22.46	23.06	23.56	24.06	24.66	25.16	25.66	26.26	26.76	27.26	27.86	28.36	28.86	29.46	29.96	30.46	31.06	31.56
30	18.46	18.96	19.56	20.06	20.56	21.16	21.66	22.16	22.76	23.26	23.76	24.36	24.86	25.36	25.96	26.46	26.96	27.56	28.06	28.56	29.16	29.66	30.16	30.76	31.26
32	18.16	18.66	19.26	19.76	20.26	20.86	21.36	21.86	22.46	22.96	23.46	24.06	24.56	25.06	25.66	26.16	26.66	27.26	27.76	28.36	28.86	29.36	29.96	30.46	30.96
34	17.86	18.36	18.96	19.46	19.96	20.56	21.06	21.56	22.16	22.66	23.16	23.76	24.26	24.86	25.36	25.86	27.46	26.96	27.46	28.06	28.56	29.06	29.66	30.16	30.66
36	17.56	18.06	18.66	19.16	19.66	20.26	20.76	21.36	21.86	22.36	22.96	23.46	23.96	24.56	25.06	25.56	26.16	26.66	27.16	27.76	28.26	28.76	29.36	29.86	30.36
38	17.26	17.86	18.36	18.86	19.46	19.96	20.46	21.06	21.56	22.06	22.66	23.16	23.66	24.26	24.76	25.26	25.86	26.36	26.86	27.46	27.96	28.46	29.06	29.56	30.06
40	16.96	17.56	18.06	18.56	19.16	19.66	20.16	20.76	21.26	21.76	22.36	22.86	23.36	23.96	24.46	24.96	25.56	26.06	26.56	27.16	27.66	28.16	28.76	29.26	29.76
42	16.66	17.26	17.76	18.26	18.86	19.36	19.86	20.46	20.96	21.46	22.06	22.56	23.06	23.66	24.16	24.66	25.26	25.76	26.26	26.86	27.36	27.86	28.46	28.96	29.46
44	16.36	16.96	17.46	17.96	18.56	18.56	19.56	20.16	20.66	21.16	21.76	22.26	22.76	23.36	23.86	24.36	24.96	25.46	25.96	26.56	27.06	27.56	28.16	28.66	29.16
46	16.06	16.66	17.16	17.66	18.26	18.76	19.26	19.86	20.36	20.86	21.46	21.96	22.46	23.06	23.56	24.06	24.66	25.16	25.66	26.26	26.76	27.26	27.86	28.36	28.86
48	15.76	16.36	16.86	17.36	17.96	18.46	18.96	19.56	20.06	20.56	21.16	21.66	22.16	22.76	23.26	23.76	24.36	24.86	25.36	25.96	26.46	27.06	27.56	28.06	28.66
50	15.46	16.06	16.56	17.06	17.66	18.16	18.66	19.26	19.76	20.26	20.86	21.36	21.86	22.46	22.96	23.56	24.06	24.56	25.16	25.66	26.16	26.76	27.26	27.76	28.36
52	15.16	15.76	16.26	16.76	17.36	17.76	18.36	18.96	19.46	20.06	20.56	21.06	21.66	22.16	22.66	23.26	23.76	24.26	24.86	25.36	25.86	26.46	26.96	27.46	28.06
54	14.86	15.46	15.96	16.56	17.06	17.56	18.16	18.66	19.16	19.76	20.26	20.76	21.36	21.86	22.36	22.96	23.46	23.96	24.56	25.06	25.56	26.16	26.66	27.16	27.76
56	14.66	15.16	15.66	16.26	16.76	17.26	17.86	18.36	18.86	19.46	19.96	20.46	21.06	21.56	22.06	22.66	23.16	23.66	24.26	24.76	25.26	25.86	26.36	26.86	27.46
58	14.36	14.86	15.36	15.96	16.46	16.96	17.56	18.06	18.56	19.16	19.66	20.16	20.76	21.26	21.76	22.36	22.86	23.36	23.96	24.46	24.96	25.56	26.06	26.56	27.16
60	14.06	14.56	15.06	15.66	16.16	16.66	17.26	17.76	18.26	18.86	19.36	19.86	20.46	20.96	21.46	22.06	22.56	23.06	23.66	24.16	24.66	25.26	25.76	26.26	26.86
62	13.76	14.26	14.76	15.36	15.86	16.36	16.96	17.46	17.96	18.56	19.06	19.56	20.16	20.66	21.16	21.76	22.26	22.76	23.36	23.86	24.36	24.96	25.46	25.96	26.56
64	13.46	13.96	14.46	15.06	15.56	16.06	16.66	17.16	17.66	18.26	18.76	19.26	19.86	20.36	20.86	21.46	21.96	22.46	23.06	23.56	24.06	24.66	25.16	25.76	26.26
66	13.16	13.66	14.16	14.76	15.26	15.76	16.36	16.86	17.36	17.96	18.46	18.36	19.56	20.06	20.56	21.16	21.66	22.26	22.76	23.26	23.86	24.36	24.86	25.46	25.96
68	12.86	13.36	13.86	14.46	14.96	15.46	16.06	16.56	17.06	17.66	18.16	18.76	19.26	19.76	20.36	20.86	21.36	21.96	22.46	22.96	23.56	24.06	24.56	25.16	25.66
70	12.56	13.06	13.56	14.16	14.66	15.26	15.76	16.26	16.86	17.36	17.76	18.46	18.96	19.46	20.06	20.56	21.06	21.66	22.16	22.66	23.26	23.76	24.26	24.86	25.36
72	12.26	12.76	13.36	13.86	14.36	14.96	15.46	15.36	16.56	17.06	17.56	18.16	18.66	19.16	19.76	20.26	20.76	21.36	21.86	22.36	22.96	23.46	23.96	24.56	25.06
74	11.96	12.46	13.06	13.56	14.06	14.66	15.16	15.66	16.26	16.76	17.26	17.86	18.36	18.86	19.46	19.96	20.46	21.06	21.56	22.06	22.66	23.16	23.66	24.26	24.76

*Dco values are given in mL/min/mm Hg. The values listed here reflect the Dco as listed in Table 5-7a minus 5.74 (95% confidence interval). Adapted from Crapo and Morris.⁹

APPENDIX C

IMPAIRMENT CLASSIFICATION FOR RESPIRATORY DISEASE, USING PULMONARY FUNCTION AND EXERCISE TESTS

	TEST	FVC	FEV ₁	FEV ₁ /FVC	Dco	VO ₂ MAX	PERCENT VALUE OF WHOLE PERSON
G R A D E	1	Measured FVC ≥ lower limit of normal <u>AND</u>	Measured FEV ₁ ≥ lower limit of normal <u>AND</u>	FEV ₁ /FVC ≥ lower limit of normal <u>AND</u>	Dco ≥ lower limit of normal <u>OR</u>	VO ₂ MAX ≥ 25 ml/(kg.min) <u>OR</u> > 7.1 METS	0
	2	≥ 60% of predicted and < lower limit of normal <u>OR</u>	≥ 60% of predicted and < lower limit of normal <u>OR</u>		≥ 60% of predicted and < lower limit of normal <u>OR</u>	≥ 20 and < 25 ml/(kg. min) <u>OR</u> 5.7 -7.1 METS	10 - 25
	3	≥ 51% and ≤ 59% of predicted <u>OR</u>	≥ 41% and ≤ 59% of predicted <u>OR</u>		≥ 41% and ≤ 59% of predicted <u>OR</u>	≥ 15 and <20 (ml/(kg.min) <u>OR</u> 4.3 to < 5.7 METS	26 - 50
	4	≤ 50% of predicted <u>OR</u>	≤ 40% of predicted <u>OR</u>		≤ 40% of predicted <u>OR</u>	< 15 ml/(Kg.min) <u>OR</u> < 1.05 L/min <u>OR</u> < 4.3 METS	51 - 100

APPENDIX C

EFFECTIVE DATE:	May 1, 2017
AUTHORITY:	Sections 23(1) and 23(2) of the <i>Act</i>
CROSS REFERENCES:	Policy item #39.10, <i>Permanent Disability Evaluation Schedule</i>
HISTORY:	<p>January 1, 2019 – Updated Vision and Loss of Strength. Revised a typographical error in Vestibular Disorders.</p> <p>May 1, 2017– Added obturator nerve to section VIII. Peripheral Nervous System Conditions of the Permanent Disability Evaluation Schedule. Changed the percentages of disability for permanent tracheostomy, significant tracheal obstruction and minor tracheal obstruction; changed the range of motion rating threshold for the spine and limbs; and made minor consequential amendments including typographical errors and edits for clarification.</p> <p>January 1, 2015–revisions to the Permanent Disability Evaluation Schedule to consolidate and incorporate policy items #31.90, #39.11, #39.12, #39.13, #39.20, #39.21, #39.30, #39.31, #39.32, #39.40, #39.41, #39.42, #39.43, and #39.44 of the <i>Rehabilitation Services & Claims Manual</i>, Vol II. Revisions also to consolidate and incorporate portions of the <i>Additional Factors Outline</i>.</p> <p>January 1, 2007– policy changes to add item 81 Asthma and item 82 Contact Dermatitis to the Permanent Disability Evaluation Schedule.</p> <p>August 1, 2003–substantial changes to the Permanent Disability Evaluation Schedule including changes to the percentage(s) of disability for partial amputation of the digits, spine and pronation/supination. Housekeeping changes.</p> <p>July 16, 2002–housekeeping changes.</p>
APPLICATION:	Applies to all decisions made on or after January 1, 2019.

- (10) Ratio of the estimated difference in earnings to the B.C. average wage in the year age 65 was attained, i.e. (9)/(6). _____ 10)
(4 decimals)
- (11) Estimated average monthly wage for B.C. in the year of adjustment (see Supplement No. 1). _____ 11)
- (12) Projection of estimated monthly wage loss in the year age 65 was attained to the date of adjustment, i.e., (10) x (11). _____ 12)
- (13) Total work months disabled due to compensable disability, i.e., 12 months/year x (2). _____ 13)
- (14) Lifetime lost earnings to age 65 expressed in terms of most recent dollars, i.e., (12) x (13). _____ 14)
- (15) Deemed total disability pension payments to age 65 = deemed current pension (including term pensions expiring at age 65) x (13). _____ 15)
- (16) Net lifetime lost income, i.e., (14) – (15). _____ 16)
- (17) Projected monthly loss of retirement income from reduced savings, i.e., 0.0005 x (16). _____ 17)

THE FIGURE SHOWN AS ITEM (17) IS TRANSFERRED TO ITEM (d)
ON THE CALCULATION SHEET FOR WORKERS 65 AND OVER.

SUPPLEMENT NO. 5

MONTHLY REDUCTION OF POST-RETIREMENT EARNING CAPACITY

- (1) Percentage of total disability that would be awarded at the date of the adjustment for the disability sustained by the applicant. %_____ 1)
- (2) Monthly allowance for loss of earning capacity from the disability.
\$0.80 for each 1% of total disability, i.e.,
\$0.80/per 1% x (1). \$_____ 2)

THIS FIGURE SHOWN AS ITEM (2) IS TRANSFERRED TO ITEM (e) ON THE CALCULATION SHEET FOR WORKERS AGED 65 AND OVER.

The cash figure in Item (2) will be adjusted with the Consumer Price Index, the first such adjustment being made on July 1, 1976.

Effective June 30, 2002, the percentage change in the Consumer Price Index determined under section 25.2 of the *Act*, as described in policy item #51.20, will be used.

Rates

January 1, 2018	–	\$3.57 for each 1%
January 1, 2019	–	\$3.66 for each 1%

If required, earlier figures may be obtained by contacting the Board.

APPENDIX 6

MAXIMUM FINES FOR COMMITTING OFFENCES UNDER THE ACT

Section 77(2) provides that “Every person who commits an offence under this Part for which no other punishment has been provided is liable on conviction to a fine not exceeding. . .” the amount set out below.

Date		Amount
January 1, 2018	– December 31, 2018	\$5,412.08
January 1, 2019	– December 31, 2019	\$5,544.38

If required, earlier figures may be obtained by contacting the Board.

