

## Back To Basics

**Upper Extremity Ratings Require more Precise Calculation Than the Use of ‘Plateau Guidelines’  
Rating Weighted Loss Of Pre-Injury Capacity In The Upper Extremities  
Weighted Tables Addressing Strength, Manipulation and Placement Functions**

**Calculation must take into consideration the scheduled differences for major/minor hands.  
Upper Extremity Ratings Require More Precise Calculation Than the Use of ‘Plateau Guidelines.’**

*The concepts and tables are expanded from current tables in the Rating Schedule. Rating functional loss must only be supported by the rating principles of the Schedule and the measurable and clinical findings of the P&S Medical Report.*

*The following tables and examples will provide the reliability necessary in the determination of Permanent Disability Ratings while still allowing for the consideration of age and occupation effects on the injured worker’s impairment.*

*It takes nothing away - it allows for the weighted application of the occupational variances to address the particular demands for the disability being rated, considering not only the major or minor extremity differences, but the scheduled differences for ratings addressing functional loss at/or above the shoulder level.*

The concept of rating the greater and one-half of the lesser, is taken back to its genesis by the proper use of weighted fractions in the rating calculations. **The proper use of this rating principle eliminates the inherent duplication of disability when applying this concept to pre-determined values of disability (plateau guidelines).**

Labor Code Section § 4660 & The Rating Schedule (8 CCR 10151)

**Weighted Work Capacity Functional Loss** in the Upper Extremities

**Basic Premise: Fine Manipulation & Strength Activities Duplicate Functional Loss.  
(Rating Schedule page 2-11 notes 27 and 28.)**

It is DEU ‘Policy’ not to set values outside of **The Rating Schedule** or The Rule Making Process - **California Office of Administrative Law**

‘Consensus of The Raters’ is a valid forum for clarification of un-scheduled values. But it is not valid for changing major rating principles addressed by The Schedule.

The Schedule allows the use of “multiple interchangeable indexes” to express permanent disability due to the impairments manifestations caused by an industrial injury. The fundamental ruling guide is that they are never aggregated or combined and, ultimately, the index producing the greater rating is used.

For the Lower Arms these indexes can be strength (grip), limitation of motion (manipulation) or amputation. These indexes are not in addition to each other. The need for bracing is also considered within the manipulation index.

Work Capacity Index: Restrictions and/or Percentages of Functional Loss

Upper Arms: Placement Functions At or Above 90<sup>0</sup>

**When rating objective measurable factors of disability, the range of motion of the shoulder joint is considered from a position of the arm at the side of the body through the full arc of motion, including scapular motion.  
(Refer to Tables 2a & 2B - Shoulder Limitation of Motion (Schedule page 7-4)**

**When Rating loss of pre-injury capacity under The Work Capacity Index, limitations of placement at or above 90<sup>0</sup> (At or Above Shoulder Level) are given independent consideration from forceful/manipulation functional loss of the lower arm.** The shoulder/arm places the hands at, above or 90<sup>0</sup> to perform forceful or manipulation functions - the preponderance of upper extremity actions occurs below 90<sup>0</sup>. *“As a tactile organ, the upper extremity is a multi-articulated joint delivery system to position the hand in space.”* – Ernest J. Gentchos, MD F.A.C.S, The University of Pennsylvania

**Manipulation/Dexterity/Mobility/Flexion & Extension / Bracing  
Forceful Activities/Gripping/Torquing/Pushing & Pulling**

**Upper Arm: Weighted Fraction Table - Placement Functions At Or Above 90<sup>0</sup>**

**Example # 1 Left (Minor) Shoulder:**

<b>Subjectives:</b> 8 CCR 9727	Constant Minimal-to-slight pain, becoming occasional moderate with activities at or above shoulder level. <b>Einstein-Horner Calculation (for Overlapping Subjective Factors of Disability): Basic Pain: 03% = 25-3 = 22 x ¼ = 5.5 x 13% (activities at shoulder level). =-.715] 3.715 ≈ 05% *</b> <i>* When mathematically calculating a rating standard, it should be expressed as one of the following values: 1,2,3,5,8,10,13,15 &amp; multiples of 5% thereafter, before modification for age and occupation. [See Page 1-13 of The Schedule.]</i>
<b>Factors Under The Work Capacity Index -</b>	
<b>Functional Loss</b>	<b>Precluded from repetitive reaching and above shoulder work with the left (minor) shoulder. Loss of Pre-injury capacity Calculation: 50% loss ≈ 1/2 weighted fraction from page 7-4.</b>
<b>Answer:</b> Occupation: Shipping/Receiving Clerk – Age 45	
<b>1/2 (7.332 - 13% - 360 - G - 15 - 16) 08 = 08%</b>	

**Example # 2 Right (Major) Shoulder:**

<b>Subjective Factors</b> 8 CCR 9727	Constant slight right shoulder pain at rest increasing to moderate with heavy work. <b>EHC/Basic Pain: 05% + [ 25- 5 = 20 x 15% (heavy work for one arm) = 03] = 08%</b>
<b>Factors Under The Work Capacity Index -</b>	
<b>Functional Loss</b>	<b>Shoulders/Arms: No substantial work above shoulder height. Loss of Pre-injury capacity Calculation: 75% loss ≈ 3/4 weighted fraction.</b>
<b>Answer:</b> Occupation: Construction Laborer – Age 40	
<b>3/4 (7.331 - 15% - 480 - H - 19 - 19) 14 = 14%</b>	

**Example # 3 Bilateral Upper Extremities: Combining the levels of functional loss from Example # 1 and # 2 for the bilateral upper extremities. (Different Occupational Group # and Age.)**

<b>Factors Under The Work Capacity Index -</b>	
<b>Functional Loss</b>	<b>Bilateral Upper Arms: No working above shoulder level. (R) 50% loss of capacity. Left shoulder 75% loss of pre-injury capacity for work at or above shoulder level.</b>
<b>Answer:</b> Occupation: Housekeeper – Age 49	
<b>18/28 (7.333 - 40% - 340 - F - 40 - 44) 28 = 28%</b>	

**Weighted Fraction Calculation for Disability 7.333 – 40%**  
**(R) 75% loss ≈ 3/4 (L) 50% loss for work at 90<sup>0</sup> 1**  
**1.Equivalent Fractions are obtained from Page 7-4 of The Schedule**  
Weighted Fraction **(Formulas Only Modified for Occupation)** Weighted Loss  
3/4 (7.331 - 15% - 340 - F - 15) 11 (Major Shoulder)  
1/2 (7.332 - 13% - 340 - F - 13) 07 (Minor Shoulder)  
28 18  
LPC (06-05-1998) Denominator ↓ ↑ Numerator  
**To rate for occupation means that you only adjust the rating standard for the occupational variance. The Age Modification is only made in the bilateral formula.**

<b>UPPER ARM/SHOULDER – PLACEMENT FUNCTIONS</b>							
<b>TABLE 2A – Page 7-4 Of The Schedule / Weighted Fraction To Be Applied To Formulas</b>							
<b>7.331(Major) (15%)– 7.332(Minor) (13%) &amp; 7.333(Bilateral)(40%)</b>							
Functional Loss	Average Of Arc of Motion:	% Of Loss	Weighted Fraction ←	Functional Loss →	Average of Arc of Motion:	% Of Loss	Weighted Fraction
165 <sup>0</sup> - 180 <sup>0</sup>		00	00		125 <sup>0</sup>	42	2/5
Prolonged Overhead	160 <sup>0</sup>	05	1/20	<b>Example # 1</b>			
	155 <sup>0</sup>	06	1/17	<b>Above Shoulder Repetitive Work</b>	120 <sup>0</sup>	50%	1/2
	150 <sup>0</sup>	07	1/14		115 <sup>0</sup>	59	3/5
					110 <sup>0</sup>	65	2/3
				<b>Example # 2</b>			
Repetitive Overhead Work	145 <sup>0</sup>	14	1/7	<b>Substantial Work 75% loss for Work Above 90<sup>0</sup></b>	105 <sup>0</sup>	75	3/4
	140 <sup>0</sup>	20	1/5		100 <sup>0</sup>	83	5/6
Overhead	135 <sup>0</sup>	25-27	1/4		95 <sup>0</sup>	92	9/10
	130 <sup>0</sup>	33	1/3	Shoulder Level Work	90 <sup>0</sup>	100%	1/1

**LOWER ARM: Weighted Fraction Table for Strength And Manipulation Functions**

Premise: Fine Manipulation & Strength Activities Duplicate Functional Loss. Calculation must take into consideration the scheduled differences for major/minor hands.

Lower Arms - The inherent nature of finger mobility is inseparable from the strength functions of the hand. To avoid 'duplication' among factors of disability, we weight the percentage loss of function with the use of The Table on page 7-6 of the Schedule. (See Modified Table Below)

**Upper Extremity Ratings Require more Precise Calculation Than the Use of 'Plateau Guidelines.'**

The Schedule creates an arrangement of disabilities and values, which stand relationship to one another. It provides the structure necessary to assign a standard to a non-scheduled disability according to its seriousness. – Page 1-13 of 8 CCR 10151, The Schedule.

For the hand, the Schedule provides for ratings under multiple indexes: (1) strength (grip), (2) imitation of motion (manipulation) or (3) amputation. These indexes are not added to each other; only the highest ratable index is used.. The Fraction Table on page 7-6 of the Schedule is used with disability # 9.5 (finger motion loss), due to the inherent nature of finger mobility been inseparable from strength functions of the hand. Schedule pages 1-12 to 1-14, footnotes 16 to 28 on pages 2-7 to 2-1a' and tables on pages 7-4 to 7-6.

**Determining A Weighted Fraction**

DEU Memos Dated 04-21-1999 & 10-23-2001: Help us, determine the proper analogy for physician's description of disability.

For the lower arm, the Schedule provides for ratings under multiple indexes such as strength (grip), limitation of motion (manipulation) or amputation, with the proviso that these indexes are not added together. Because of the inherent nature of finger mobility is inseparable from the strength functions of the hand, to avoid 'duplication' among factors of disability, we weight the percentages loss of function with the use of The Hand Scale for Rating. (Schedule, Page 2-11, footnotes 27 & 28.)

No Forceful Activities = 50% loss of pre-injury capacity ≈1/3 under table on 7-6 of The Schedule.

No Fine or Repetitive Manipulation = 50% loss of pre-injury capacity ≈1/3 under table on 7-6 of The Schedule. (Table Revised February of 2004)

<b>Weighted Table For Work Capacity Functional Loss of Strength / Dexterity Functions *</b>					
<b>Weighted Fractions To Be Applied To Formulas:</b>					
<b>10.511-10.512 - 10.513 – 85% / Forceful Activities/Gripping/Torquing/Pushing, Pulling -</b>					
<b>9.5111- 9.812 - 9.5113- 90% / Manipulation/Dexterity/Mobility/Flexion &amp; Extension/Bracing</b>					
Functional Loss	Weighted Percentage of Loss	Weighted Fraction:	Functional Loss	Weighted Percentage of Loss	Weighted Fraction:
No Prolonged Very Forceful Activities	10%	1/30	75% loss For Fine Manipulation or Forceful Activities	45%	3/10
	15%	1/20	Fine Manipulation Heavy or Forceful Activities	50%	1/3
No Prolonged Typing	20%	1/12	Bilateral Soft Braces	55%	2/5
No Prolonged or Very Forceful Activities	25%	1/8		60%-65%	4/9
No Repetitive Forceful Activities or Fine Manipulation	30%	1/6	Substantial Loss of Function	70%-75%	1/2
Intermittent Use of Soft Splints	35%	1/5	Minimal Demands for Physical Effort		3/5
	40%	1/4	Refer Also to Placement Functions Table		

\* Maintains objective correlation among rating standards of disability for Immobility, Strength and Placement Functions. (Also between Immobility & 1<sup>st</sup> Level of Amputation: 7.143.)

<b>Weighted Values for Functional Modifiers</b>		
Modifiers	% Of Loss	Weighted Fraction
Prolonged	25%	1/4
Very Forceful	25%	1/4
Very Heavy	25%	1/4
Repetitive	50%	1/2
Forceful	50%	1/2
Heavy	50%	1/2
Fine	50%	1/2
Substantial/Frequent	75%	3/4
Sustained/Continuous	100%	1/1

(↑ Use The Above Tables to determine the Weighted Fractions of the Following Examples ↓)

**Example: Bilateral Arms Strength and Fine Manipulation Functions**

<b>Factors Under The Work Capacity Index –</b>	
<b>Functional Loss</b>	<b>Lower Arms:</b> Work Restrictions, "she is currently totally and permanently disabled from her prior occupation. <b>She is restricted from using her hands for any fine manipulation or keyboarding activities, or lifting more than a few pounds.</b> "
	<b>Loss of Capacity Calculation: No Fine Manipulation ≈ 50% ≈ weighted fraction of 1/3</b>
	<b>Loss of Capacity Calculation: Lifting more than a few pounds ≈ 75% loss ≈ weighted fraction of 1/2</b>
<b>Answer: Final Rating is Based on The 75% weighted loss of strength activities – For an Office Assistant – Age 35</b>	
<b>36/70 (10.513 - 85% - 111 - E - 83 - 82) 42 = 42%</b>	

**Lower Arms (elbows-to-hands):** The Schedule provides for ratings under multiple indexes such as strength (grip), limitation of motion (manipulation) or amputation, with the proviso that these indexes are not in addition to each other. The inherent nature of finger mobility is inseparable from the strength functions of the hand. To avoid 'duplication' among factors of disability, we weight the percentage loss of function with the use of The Table on page 7-6 of the Schedule.

**Forceful Activities/Gripping/Torquing/Pushing, Pulling (Grip): Disability 10.5**

**Loss of Capacity Calculation: Lifting more than a few pounds ≈**

**75% loss ≈ weighted fraction of 1/2**

<b>36/70 (10.513 - 85% - 111 - E - 83 - 82) 42 = 42%</b>	
Weighted Fraction Calculation For Formula 10.513 – 85%	
Forceful Activities/Gripping/Torquing/Pushing, Pulling (Grip): <b>(R/L) 75% loss ≈ weighted fraction 4/9</b> 1. Equivalent Fractions are obtained from Page 7-6 of The Schedule.	
<b>Weighted Fraction / (Formulas Only Modified for Occupation) /Weighted Loss</b>	
	1/2 (10.511 - 40% - 111 - E - 37) 19
	1/2 (10.512 - 36% - 111 - E - 33) 17
	<b>70   36</b>
<i>LPC (06-05-1998)©</i>	Denominator ↑   ↑ Numerator

**Manipulation/Dexterity/Mobility/Flexion & Extension/Bracing: - Disability 9.5**

**Loss of Capacity Calculation: No Fine Manipulation ≈ 50% ≈ weighted fraction of 1/3**

<b>31/92 (9.5113 - 90% - 111 - G - 91 - 90) 30 = 30%</b>	
Weighted Fraction Calculation For Formula 9.5113 – 90%	
<b>Manipulation/Dexterity/Mobility/Flexion &amp; Extension (Bracing)</b> <b>(R/L) No Fine Manipulation: 50% loss ≈ weighted fraction 1/3</b> 1. Equivalent Fractions are obtained from Page 7-6 of The Schedule.	
<b>Weighted Fraction / (Formulas Only Modified for Occupation) /Weighted Loss</b>	
	1/3 (9.5111 - 45% - 111 - G - 48) 16
	1/3 (9.5112 - 41% - 111 - G - 44) 15
	<b>92   31</b>
<i>LPC (06-05-1998)©</i>	Denominator ↑   ↑ Numerator

**Avoiding Pyramiding – The Greater And ½ Of The Lesser**

**Combining Disabilities in a Single Extremity: Rating Schedule pages 7-12 & 7-13.** Under these guidelines, the highest functional disability (HFD) rating maintains its full value. We add 50% of the value of the second highest disability (SHD).  
HFD = H + ½ (SHD)

**Note: We do not add subjective factors to the bilateral modified formulas for placement, strength or manipulation functions. The formulation of functional loss under The Work Capacity Index, takes into consideration all symptoms and measurable findings.**

Factors Under The Work Capacity Index –	
<b>Functional Loss</b>	<p><b>Upper Arms:</b>  <b>Right Shoulder – No Repetitive Work Above Shoulder Level.</b>  <b>Loss of Capacity Calculation: 50% loss ≈ ½ weighted fraction</b> (Table on Page 7-4)  <b>Left (Minor) Arm – No Overhead work.</b>  <b>Loss of Capacity Calculation: 25% loss ≈ ¼ weighted fraction</b></p> <p><b>Lower Arms:</b>  <b>Right Arm</b> No heavy lifting, repetitive pushing, pulling or torquing.  <b>Loss of Capacity Calculation: No forceful Activities ≈ 50% ≈ weighted fraction of 1/3</b>  <b>Left Arm:</b> No Very Heavy work or very heavy lifting  <b>Loss of Capacity Calculation: No Very Heavy Work or Very Heavy Lifting ≈ 25% loss of pre-injury capacity ≈ weighted fraction 1/8</b></p>
<p><b>Rating Loss Of Pre-Injury Capacity In The Upper Extremities</b>  <b>Calculation must take into consideration the scheduled differences for major/minor hands.</b>  <b>Upper Extremity Ratings Require more Precise Calculation Than the Use of ‘Plateau Guidelines.</b></p>	
<p><b>(Occupation) Painter – Age 45</b></p> <p style="text-align: right;">20/88 (10.513 - 85% - 380 - H - 88 - 89) 20  1/2 [ 14/36 (7.333 - 40% - 380 - H - 46 - 48) 19 ] 10  30 = 30% *</p> <p>*Combining Disabilities in a Single Extremity: Rating Schedule ages 7-12 &amp; 7-13. Under these guidelines, the functional disability rating the highest maintains its full value. Fifty Percent (50%) of the value of all other functional disability ratings is then added to the highest rated disability. [Schedule, page 1-4.]</p>	

<p><b>Weighted Fraction Calculation for Disability 7.333 – 40%</b>  Bilateral Shoulder – Loss Of Function At/Above 90°  <b>(R) 50% ½ / (L) 25% - 1/4</b>  1. Equivalent Fractions are obtained from Page 7-4 of The Schedule  <b>Weighted Fraction (Formulas Only Modified for Occupation) Weighted Loss</b></p> <p style="text-align: right;">1/2 (7.331 - 15% - 380 - H - 19) 10  1/4 (7.332 - 13% - 380 - H - 17) 04  36 14  Denominator ↑ ↓ Numerator</p> <p>LPC (06-05-1998)©</p>
--

<p><b>Forceful Activities/Gripping/Torquing/Pushing, Pulling (Grip): 10.513</b>  <b>(R) 50% 1/3 / (L) 25% - 1/8</b>  1. Equivalent Fractions are obtained from Page 7-6 of The Schedule.  <b>Weighted Fraction (Formulas Only Modified for Occupation) Weighted Loss</b></p> <p style="text-align: right;">1/3 (10.511 - 40% - 380 - H - 46) 15  1/8 (10.512 - 36% - 380 - H - 42) 05  88 20  Denominator ↑ ↓ Numerator</p> <p>LPC (06-05-1998)©</p>
--