



## Functional Abilities Evaluation

**Claimant Name:** Sample Smith

**Claimant #:** 54217

**Date of Evaluation(s):** 09/12/2025

**CONFIDENTIAL INFORMATION ENCLOSED**

WorkerFacts Clinic  
123 Sample Drive  
Phone: 212-111-2222 Fax: 757-273-6198

## Contents of Report:

Client Information

Pain & Symptom Illustration

Referral Questions

Conclusions

Functional Abilities Determination and Job Match Results

Test Data:

- o Activity Overview
- o Extremity Strength
- o Occupational Tasks
- o Range of Motion (Spine)

Appendix One: Reference Charts

Appendix Two: Digital Library



# Functional Abilities Evaluation

123 Sample Drive

Phone: 212-111-2222 | Email: sarahsample@workerfactsclinic.com

Report Date:  
09/12/2025



Sample Smith

Client Information

**Name:**  
**Address:**  
**Home Phone:**  
**Work Phone:**  
**Occupation:**  
**Employer(SIC):**  
**Insurance:**  
**Physician:**

Sample Smith  
9 Winston Place  
444-333-3333  
n/a  
Laborer  
City of Smithtown  
ABC Insurance  
ABC Case Mgmt

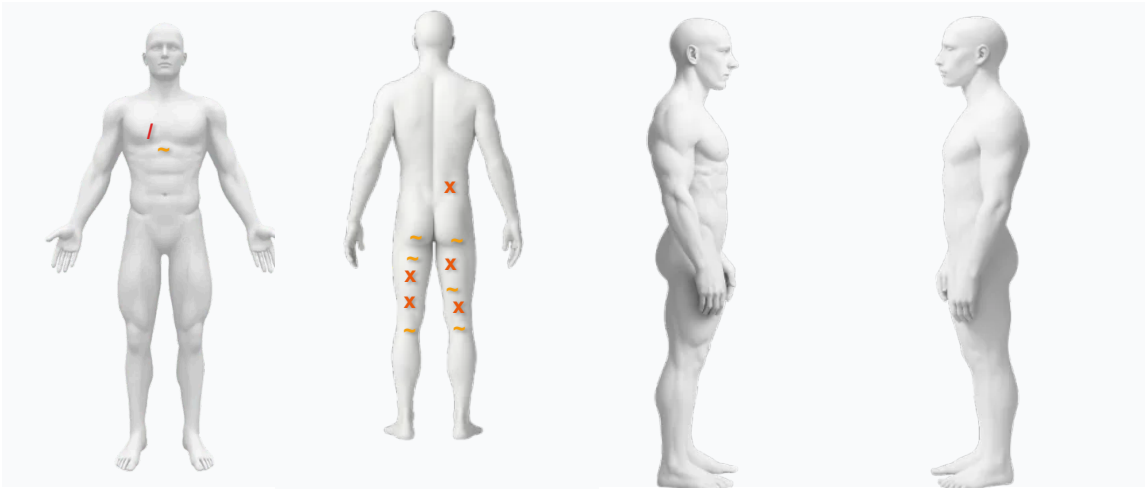
**ID:**  
**DOB (Age):**  
**Gender:**  
**Height:**  
**Weight:**  
**Dominant Hand:**  
**Referred By:**  
**Resting Pulse:**  
**BP Sitting:**  
**Tested By:**

54217  
1952-07-29 (73)  
male  
173 cm  
243 lbs  
right  
ABC Case Mgmt  
Norm bpm  
Norm  
Sarah Sample, RPT

Mechanism and History of Injury

Date	Description
04/2011	Lower back injury sustained during construction work on March 10, 2024. Initial treatment included physical therapy and pain management. Patient reports persistent pain and limited mobility affecting daily activities and work capacity.

Pain/Symptom Illustration



Lumbar Area

Knees



Area of Primary Concern	
P1	Primary
P2	Secondary
Pain Indicator	
~	Primary
/	Shooting
x	Burning
•	Pins and Needles
o	Numbness
General	
T	Temperature
SW	Swelling
S	Scar
C	Crepitus

## Referral Questions

What is the present lumbar range of motion noted for the client?

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:
Lumbar Flexion	49 deg	Pass	60 deg	82%
Lumbar Extension	28 deg	Pass	25 deg	112%
Lumbar Lateral Flexion - Left	27 deg	Pass	25 deg	108%
Lumbar Lateral Flexion - Right	25 deg	Pass	25 deg	116%

*\*Slight decrease in flexion but not a limitation to return to duties.*

What is the present range of motion noted for the client for the affected area of injury?

L4-L5 region shows marked limitation. Forward flexion produces pain at 45°, side bending limited to 20° bilaterally with protective muscle guarding.



What is the present strength noted for the client for the affected area of injury?

Manual muscle testing reveals 4/5 strength in hip flexors, 3+/5 in back extensors. Significant weakness noted during sustained contractions.

What are the present limitations to returning to full duties in their previous position?

Cannot perform heavy lifting >20lbs, prolonged standing >30min, or repetitive bending.

What accommodations could be made to the workplace to provide increased abilities/comfort to the client based on the present condition?

Ergonomic workstation setup, mechanical lifting aids, job rotation every 2 hours, modified work schedule with frequent breaks.

Was the client consistent and reliable in their efforts?

Yes, client demonstrated consistent effort throughout evaluation. No signs of symptom magnification or malingering behaviors observed.

Distraction test consistency - When performing distraction tests for sustained posture the client should demonstrate similar limitations and or abilities.

Pass/Fail determination:

Status: **PASS**

Comments:

n/a

Consistency with diagnosis - Based on the diagnosis and complaints of the individual it is expected that those issues would relate to a similar function performance pattern during testing. Pass/Fail determination:

Status: **FAIL**

Comments:

n/a

**What would be the Physical Demand Classification (PDC) for this client?**

\*Light which is in line with full return to duties.

**(M) Medium Work**

Exerting 20 to 50 lbs of force occasionally, and/or 10 to 25 lbs of force frequently, and/or greater than negligible up to 10 lbs of force constantly to move objects. Physical demand requirements are in excess of those for light work.

Physical Demand Level	OCCASIONAL 0-33% of the workday	FREQUENT 34-66% of the workday	CONSTANT 67-100% of the workday
<b>Sedentary</b>	1 - 10 lbs.	Negligible	Negligible
<b>Light</b>	11 - 20 lbs.	1 - 10 lbs.	Negligible
<b>Medium</b>	21 - 50 lbs.	11 - 25 lbs.	1 - 10 lbs.
<b>Heavy</b>	51 - 100 lbs.	26 - 50 lbs.	11 - 20 lbs.
<b>Very Heavy</b>	Over 100 lbs.	Over 50 lbs.	Over 20 lbs.

**Conclusions**

The client was overall a below average rating of consistency and reliability for most of the testing. It is the opinion of the evaluator that based on the factual functional evidence presented, that the client is able to perform at a higher level. The client may very well be able to perform at higher weight loads, but refused to participate any further.

Client did indicate that when asked if he could perform any of the duties of his previous job he stated NO – when asked if there was any job in the City he could do he said NO.

Further to the above it should also be noted that the client did not move around in his seat during sitting tolerances or complain of discomfort while seated or after prolonged standing – client did not favor any side during carrying or lifting tests (no arm drop during carrying). No change in gait was noticed post activities during walking which again if present would be usually an indicator of pain involvement post irritation of injured area.

Client was very verbal and upset that his wife would not be allowed to sit with him during the testing versus the translator. This was overcome and the wife of the client remained in the waiting room for the entire time of the evaluation.

**Signature of Evaluator**

Date: 09/12/2025

**Sarah Sample, RPT**

License: FCE123456789

### Functional Abilities Determination and Job Match Results

Activity Tested	Sit Time	Stand Time	Test Results	Job Description	Job Requirements	Job Match (Yes/No)
Client Interview Test	45 min		N/A	Initial assessment and history gathering	Basic interview requirements	Yes
Activity Overview		5 min	//	General activity overview and preparation	Basic standing and mobility	Yes
<b>Strength</b>						
Hand Strength-Standard	5 min		L=18.0 R=23.8	Requires frequent lifting of 25-50 lbs materials throughout 8-hour shift. Essential for warehouse operations and material handling tasks.	Target: 25 lbs	Yes
Hand Strength-Rapid-Exchange	5 min		L=16.8 R=21.5	Requires frequent lifting of 25-50 lbs materials throughout 8-hour shift. Essential for warehouse operations and material handling tasks.	Target: 25 lbs	Yes
Pinch Strength-Key	5 min		L=20.0 R=20.3	Position requires sustained gripping strength for operating hand tools and equipment. Critical for manufacturing assembly line work.	Target: 25 lbs	Yes
Pinch Strength-Tip	5 min		L=18.7 R=21.7	Position requires sustained gripping strength for operating hand tools and equipment. Critical for manufacturing assembly line work.	Target: 25 lbs	Yes
Pinch Strength-Palmar	5 min		L=18.0 R=22.7	Construction work requiring consistent bilateral strength for tool operation and material manipulation. Safety-critical job function.	Target: 25 lbs	Yes
<b>ROM Total Spine/Extremity</b>						
Cervical Flexion-Extension		5 min	F=18.17 E=21.67	Construction work requiring consistent bilateral strength for tool operation and material manipulation. Safety-critical job function.	Target: 25 lbs	Yes
Cervical Lateral-Flexion		5 min	L=20.17 R=21.33	Job demands repetitive flexion and extension movements for data entry and computer work. Necessary for 6+ hours daily office tasks.	Target: 25 lbs	No
Hip Muscle-Flexion	5 min		F=18.17 E=21.50	Position requires sustained gripping strength for operating hand tools and equipment. Critical for manufacturing assembly line work.	Target: 25 lbs	Yes
Hip Muscle-Extension	5 min		F=19.50 E=22.50	Essential for patient care activities including lifting, transferring, and mobility assistance. Required for healthcare worker position.	Target: 25 lbs	Yes
Shoulder Muscle-Flexion		5 min	F=18.17 E=21.83	Position requires sustained gripping strength for operating hand tools and equipment. Critical for manufacturing assembly line work.	Target: 25 lbs	Yes
Shoulder Muscle-Abduction		5 min	F=18.67 E=22.00	Essential for patient care activities including lifting, transferring, and mobility assistance. Required for healthcare worker position.	Target: 25 lbs	Yes
Cervical Spine-Flexion-Extension		5 min	F=17.67 E=21.33	Construction work requiring consistent bilateral strength for tool operation and material manipulation. Safety-critical job function.	Target: 25 lbs	Yes
Lumbar Spine-Flexion-Extension		5 min	F=17.17 E=22.83	Job demands repetitive flexion and extension movements for data entry and computer work. Necessary for 6+ hours daily office tasks.	Target: 25 lbs	No
Shoulder Rom-Flexion-Extension		5 min	F=17.67 E=23.00	Job demands repetitive flexion and extension movements for data entry and computer work. Necessary for 6+ hours daily office tasks.	Target: 25 lbs	No

Activity Tested	Sit Time	Stand Time	Test Results	Job Description	Job Requirements	Job Match (Yes/No)
Hip Rom-Flexion-Extension	5 min		F=18.17 E=20.67	Job demands repetitive flexion and extension movements for data entry and computer work. Necessary for 6+ hours daily office tasks.	Target: 25 lbs	No
Index Dip-Flexion-Extension	5 min		F=18.33 E=22.00	Construction work requiring consistent bilateral strength for tool operation and material manipulation. Safety-critical job function.	Target: 25 lbs	Yes
<b>ROM Hand/Foot</b>						
Thumb Ip-Flexion-Extension	5 min		F=17.17 E=22.00	Essential for patient care activities including lifting, transferring, and mobility assistance. Required for healthcare worker position.	Target: 25 lbs	Yes
<b>Occupational Tasks</b>						
Fingering	5 min		%IS=19.7	Construction work requiring consistent bilateral strength for tool operation and material manipulation. Safety-critical job function.	Target: 25 lbs	Yes
Handling	5 min		%IS=21.0	Essential for patient care activities including lifting, transferring, and mobility assistance. Required for healthcare worker position.	Target: 25 lbs	Yes
Reach Immediate		5 min	%IS=19.4	Construction work requiring consistent bilateral strength for tool operation and material manipulation. Safety-critical job function.	Target: 25 lbs	Yes
<b>Cardio</b>						
Mcraft Step-Test	5 min		L=18.7 R=23.7	Essential for patient care activities including lifting, transferring, and mobility assistance. Required for healthcare worker position.	Target: 25 lbs	Yes
Bruce Treadmill-Test	5 min		L=16.2 R=22.7	Essential for patient care activities including lifting, transferring, and mobility assistance. Required for healthcare worker position.	Target: 25 lbs	Yes
<b>Total Sit / Stand Time</b>	<b>115 min</b>	<b>45 min</b>				

**Legend:** L=Left, R=Right, F=Flexion, E=Extension, %IS=% Industrial Standard, HR=Heart Rate

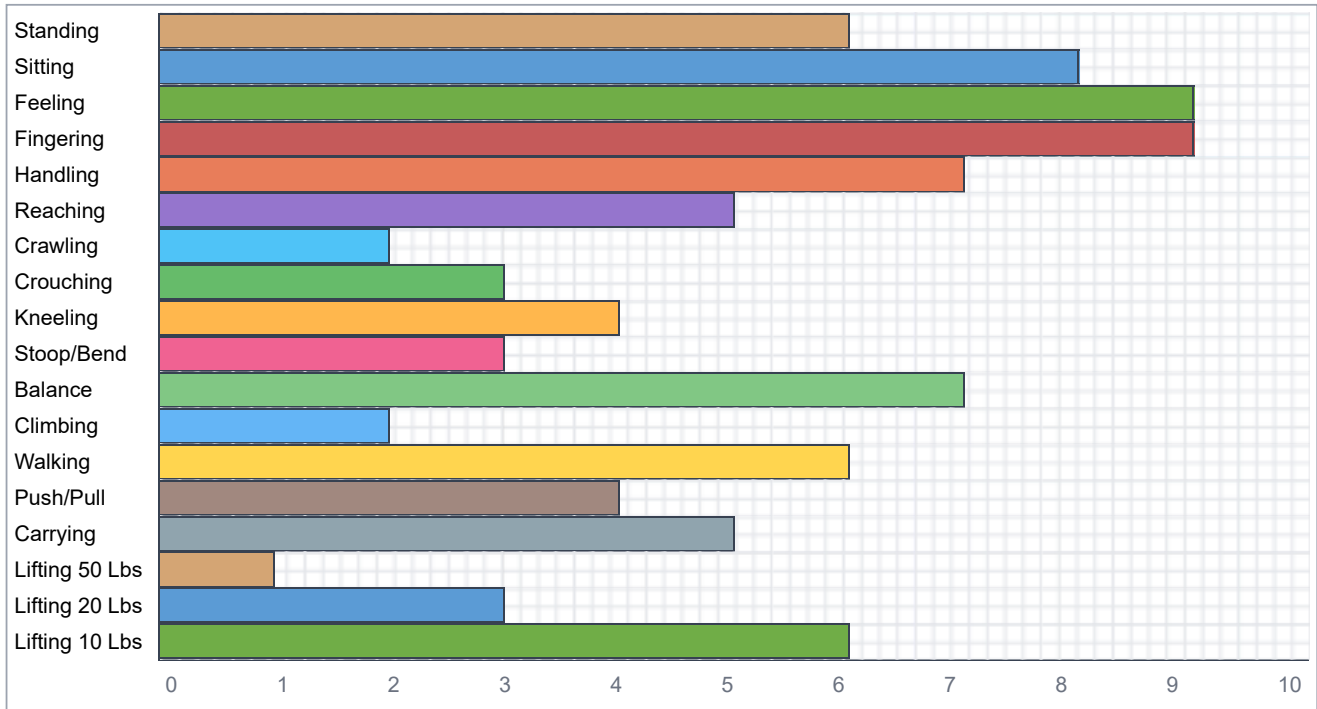
#### Consistency Overview:

Observed Effort During Testing	Total Noted for all Tested Activities
Poor effort	2 out of 22 Tests
Fair to Average effort	10 out of 22 Tests
Good effort	10 out of 22 Tests

Consistent crosschecks	Description	Pass	Fail
Hand grip rapid exchange	Rapid Exchange Grip was 15% less to equal that of the Std position 2 Hand Grip measure.		✓
Hand grip MVE	Position 1 through 5 displayed a bell curve showing greatest strength in position 2-3.		✓
Pinch grip key/tip/palmar ratio	Key grip was greater than palmar which was greater than tip grip.		✓
Dynamic lift HR fluctuation	Client displayed an increase in heart rate when weight and/or repetitions were increased (any dynamic lift: low, mid, high, or overhead).	N/A	N/A
ROM consistency check	During total spine ROM, the client provided three consecutive trials between 5 degrees and 10% of each other in a six-trial session.		✓
Test/retest trial consistency	When tests were repeated the client displayed similar values and left/right deficiency.		✓
Dominant side monitoring	It is expected that if the client is Right-Handed, he/she will demonstrate approx.10% greater values on the dominant side – if Left-Handed then the values would be close to the same.		✓
Distraction test consistency	When performing distraction tests for sustained posture the client should demonstrate similar limitations and or abilities.	✓	
Consistency with diagnosis	Based on the diagnosis and complaints of the individual it is expected that those issues would relate to a similar function performance pattern during testing.		✓
Coefficient of Variation (CV)	We would expect to see a CV less than 15% for a client that is deemed to be consistent.		✓

### Client Perceived Activity Rating Chart

*The Activity Rating Chart is a measure of the client's perceived ability level at the time of testing and is a representation of their subjective responses.*



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Hand Strength-Standard

Sample Illustration:



Static High



Static Low



Static Mid



Static Pull



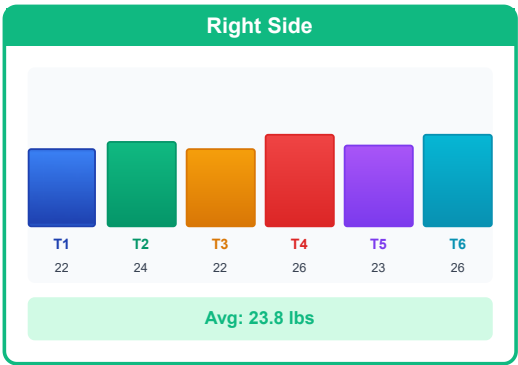
Static Push

The client was tested in our facility using standardized assessment protocols. The test results were compared to normative data when available.

Results:

Demonstrated Activity	Avg. Force (lb)	Norm (lb)	% age Norm	% age CV	Difference	Test Date
	Left   Right	L   R	L   R	L   R	Prev   Total	
Hand Strength-Standard	18.0   23.8	85.0   90.0	21%   26%	8%   7%	24.0%	09/12/2025 10:05:38 AM

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	18 lbs	15 lbs	18 lbs	20 lbs	18 lbs	19 lbs	18.0 lbs
Right	22 lbs	24 lbs	22 lbs	26 lbs	23 lbs	26 lbs	23.8 lbs



Bilateral Difference: 5.8 lbs | CV: L=8% R=7% | Bilateral Deficiency: 24.0%

\*Rating of Perceived Effort = Light

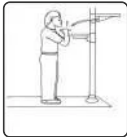
**Comments:** Hand Strength-Standard performed with poor effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials.

References:

Grip and Pinch Strength: Normative Data for Adults, V. Mathiowetz et al., Arch Pys Med Rehab, Vol. 66, pp. 69 (Feb 1985).  
The Seriously Uninjured Hand-Weakness of Grip, H. Stokes, Journal of Occupational Medicine, pp. 683-684 (Sep 1983).  
Grip Strength in a Disabled Sample: Reliability and Normative Standards, L. Matheson, et al., Industrial Rehabilitation Quarterly, Vol. 1, no. 3, Fall 1988.  
Detection of Submaximal effort by use of the rapid exchange grip, Hildreth et al., Journal of Hand Surgery, pp. 742 (Jul 1989).

Hand Strength-Rapid-Exchange

Sample Illustration:



Static High



Static Low



Static Mid



Static Pull



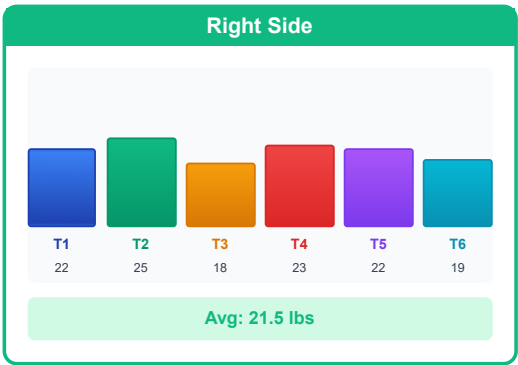
Static Push

The client was tested in our facility using standardized assessment protocols. The test results were compared to normative data when available.

Results:

Demonstrated Activity	Avg. Force (lb)	Norm (lb)	% age Norm	% age CV	Difference	Test Date
	Left   Right	L   R	L   R	L   R	Prev   Total	
Hand Strength-Rapid-Exchange	16.8   21.5	85.0   90.0	20%   24%	14%   11%	22.0%	09/12/2025 10:05:38 AM

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	12 lbs	17 lbs	19 lbs	19 lbs	16 lbs	18 lbs	16.8 lbs
Right	22 lbs	25 lbs	18 lbs	23 lbs	22 lbs	19 lbs	21.5 lbs



Bilateral Difference: 4.7 lbs | CV: L=14% R=11% | Bilateral Deficiency: 22.0%

\*Rating of Perceived Effort = Light

**Comments:** Hand Strength-Rapid-Exchange performed with poor effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials.

References:

Grip and Pinch Strength: Normative Data for Adults, V. Mathiowetz et al., Arch Pys Med Rehab, Vol. 66, pp. 69 (Feb 1985).  
The Seriously Uninjured Hand-Weakness of Grip, H. Stokes, Journal of Occupational Medicine, pp. 683-684 (Sep 1983).  
Grip Strength in a Disabled Sample: Reliability and Normative Standards, L. Matheson, et al., Industrial Rehabilitation Quarterly, Vol. 1, no. 3, Fall 1988.  
Detection of Submaximal effort by use of the rapid exchange grip, Hildreth et al., Journal of Hand Surgery, pp. 742 (Jul 1989).

## Pinch Strength-Key

### Sample Illustration:



Key Pinch



Tip Pinch



Palmer Pinch



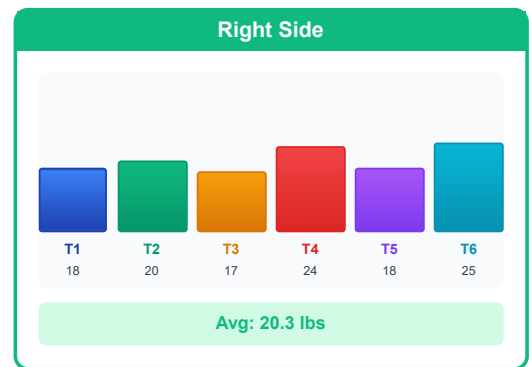
Pinch Grasp

The client was tested in our facility using a hand grip evaluation device. The test results were compared to normative data when available. It is expected that the dominant hand will display 10% greater values than the non-dominant hand with the exception of left handed individuals where the hand strength is equal. Strength measurements are in pounds (lbs).

### Results:

Demonstrated Activity	Avg. Force (lb)	Norm (lb)	% age Norm	% age CV	Difference	Test Date
	Left   Right	L   R	L   R	L   R	Prev   Total	
Pinch Strength-Key	20.0   20.3	110.5   120.8	18%   17%	6%   15%	2.0%	09/12/2025 10:05:38 AM

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	18 lbs	19 lbs	20 lbs	21 lbs	20 lbs	22 lbs	20.0 lbs
Right	18 lbs	20 lbs	17 lbs	24 lbs	18 lbs	25 lbs	20.3 lbs



**Bilateral Difference:** 0.3 lbs | **CV:** L=6% R=15% | **Bilateral Deficiency:** 2.0%

\*Rating of Perceived Effort = Somewhat hard

**Comments:** Pinch Strength-Key performed with fair to average effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials.

### References:

Grip and Pinch Strength: Normative Data for Adults, V. Mathiowetz et al., Arch Pys Med Rehab, Vol. 66, pp. 69 (Feb 1985).  
 The Seriously Uninjured Hand-Weakness of Grip, H. Stokes, Journal of Occupational Medicine, pp. 683-684 (Sep 1983).  
 Grip Strength in a Disabled Sample: Reliability and Normative Standards, L. Matheson, et al., Industrial Rehabilitation Quarterly, Vol. 1, no. 3, Fall 1988.  
 Detection of Submaximal effort by use of the rapid exchange grip, Hildreth et al., Journal of Hand Surgery, pp. 742 (Jul 1989).

Pinch Strength-Tip

Sample Illustration:



Key Pinch



Tip Pinch



Palmer Pinch



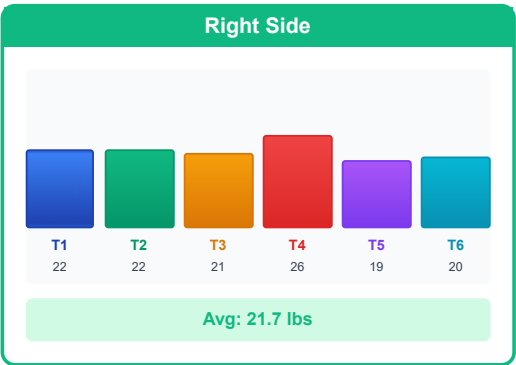
Pinch Grasp

The client was tested in our facility using a hand grip evaluation device. The test results were compared to normative data when available. It is expected that the dominant hand will display 10% greater values than the non-dominant hand with the exception of left handed individuals where the hand strength is equal. Strength measurements are in pounds (lbs).

Results:

Demonstrated Activity	Avg. Force (lb)	Norm (lb)	% age Norm	% age CV	Difference	Test Date
	Left   Right	L   R	L   R	L   R	Prev   Total	
Pinch Strength-Tip	18.7   21.7	110.5   120.8	17%   18%	9%   10%	14.0%	09/12/2025 10:05:38 AM

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	16 lbs	19 lbs	21 lbs	18 lbs	20 lbs	18 lbs	18.7 lbs
Right	22 lbs	22 lbs	21 lbs	26 lbs	19 lbs	20 lbs	21.7 lbs



Bilateral Difference: 3.0 lbs | CV: L=9% R=10% | Bilateral Deficiency: 14.0%

\*Rating of Perceived Effort = Somewhat hard

**Comments:** Pinch Strength-Tip performed with fair to average effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials.

References:

Grip and Pinch Strength: Normative Data for Adults, V. Mathiowetz et al., Arch Pys Med Rehab, Vol. 66, pp. 69 (Feb 1985).  
The Seriously Uninjured Hand-Weakness of Grip, H. Stokes, Journal of Occupational Medicine, pp. 683-684 (Sep 1983).  
Grip Strength in a Disabled Sample: Reliability and Normative Standards, L. Matheson, et al., Industrial Rehabilitation Quarterly, Vol. 1, no. 3, Fall 1988.  
Detection of Submaximal effort by use of the rapid exchange grip, Hildreth et al., Journal of Hand Surgery, pp. 742 (Jul 1989).

Pinch Strength-Palmar

Sample Illustration:



Key Pinch



Tip Pinch



Palmer Pinch



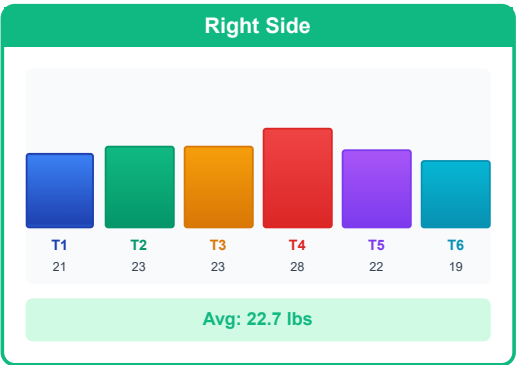
Pinch Grasp

The client was tested in our facility using a hand grip evaluation device. The test results were compared to normative data when available. It is expected that the dominant hand will display 10% greater values than the non-dominant hand with the exception of left handed individuals where the hand strength is equal. Strength measurements are in pounds (lbs).

Results:

Demonstrated Activity	Avg. Force (lb)	Norm (lb)	% age Norm	% age CV	Difference	Test Date
	Left   Right	L   R	L   R	L   R	Prev   Total	
Pinch Strength-Palmar	18.0   22.7	110.5   120.8	16%   19%	16%   12%	21.0%	09/12/2025 10:05:38 AM

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	15 lbs	19 lbs	17 lbs	22 lbs	14 lbs	21 lbs	18.0 lbs
Right	21 lbs	23 lbs	23 lbs	28 lbs	22 lbs	19 lbs	22.7 lbs



Bilateral Difference: 4.7 lbs | CV: L=16% R=12% | Bilateral Deficiency: 21.0%

\*Rating of Perceived Effort = Light

**Comments:** Pinch Strength-Palmar performed with good effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials. Multiple clinical observations documented.

References:

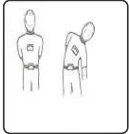
Grip and Pinch Strength: Normative Data for Adults, V. Mathiowetz et al., Arch Pys Med Rehab, Vol. 66, pp. 69 (Feb 1985).  
The Seriously Uninjured Hand-Weakness of Grip, H. Stokes, Journal of Occupational Medicine, pp. 683-684 (Sep 1983).  
Grip Strength in a Disabled Sample: Reliability and Normative Standards, L. Matheson, et al., Industrial Rehabilitation Quarterly, Vol. 1, no. 3, Fall 1988.  
Detection of Submaximal effort by use of the rapid exchange grip, Hildreth et al., Journal of Hand Surgery, pp. 742 (Jul 1989).

Cervical Flexion-Extension

Sample Illustration:



Range of Motion



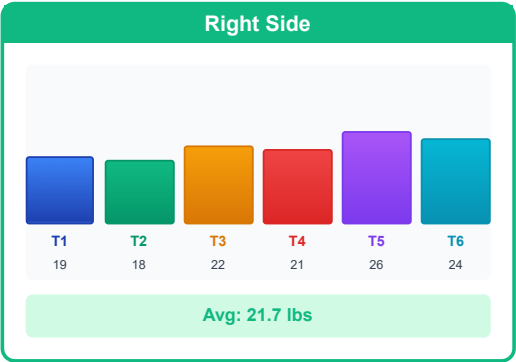
Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Cervical Flexion-Extension	22 deg	Pass	60 deg	36%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	14 lbs	14 lbs	18 lbs	23 lbs	17 lbs	23 lbs	18.2 lbs
Right	19 lbs	18 lbs	22 lbs	21 lbs	26 lbs	24 lbs	21.7 lbs



Bilateral Difference: 3.5 lbs   CV: L=20% R=13%   Bilateral Deficiency: 16.0%
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\*Rating of Perceived Effort = Light

**Comments:** Cervical Flexion-Extension performed with good effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials. Multiple clinical observations documented.

References:

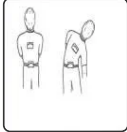
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 112-135, 4th ed..  
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 81-102, 3rd ed..

Cervical Lateral-Flexion

Sample Illustration:



Range of Motion



Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Cervical Lateral-Flexion	21 deg	Pass	60 deg	36%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	18 lbs	22 lbs	21 lbs	21 lbs	19 lbs	20 lbs	20.2 lbs
Right	18 lbs	26 lbs	18 lbs	20 lbs	20 lbs	26 lbs	21.3 lbs



Bilateral Difference: 1.2 lbs   CV: L=7% R=16%   Bilateral Deficiency: 5.0%
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\*Rating of Perceived Effort = Hard (heavy)

**Comments:** Cervical Lateral-Flexion performed with good effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials. Multiple clinical observations documented.

References:

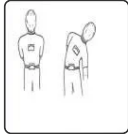
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 112-135, 4th ed..  
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 81-102, 3rd ed..

Hip Muscle-Flexion

Sample Illustration:



Range of Motion



Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Hip Muscle-Flexion	22 deg	Pass	60 deg	36%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	15 lbs	17 lbs	21 lbs	18 lbs	20 lbs	18 lbs	18.2 lbs
Right	16 lbs	18 lbs	24 lbs	25 lbs	24 lbs	22 lbs	21.5 lbs



Bilateral Difference: 3.3 lbs   CV: L=11% R=16%   Bilateral Deficiency: 15.0%
---

\*Rating of Perceived Effort = Somewhat hard

**Comments:** Hip Muscle-Flexion performed with fair to average effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials.

References:
Hand-held Dynamometry for Measuring Muscle Strength, A.W. Andrews, Journal of Human Muscle Performance, pp. 35 (Jun 1991).

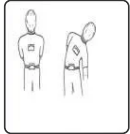


Hip Muscle-Extension

Sample Illustration:



Range of Motion



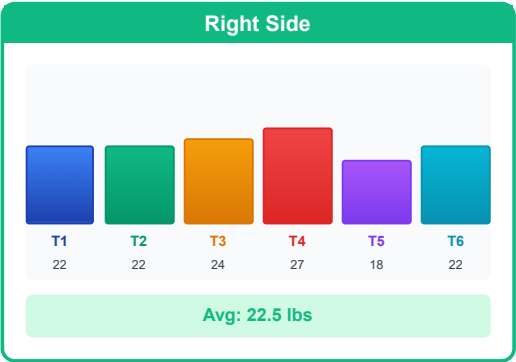
Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Hip Muscle-Extension	23 deg	Fail	25 deg	90%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	18 lbs	18 lbs	19 lbs	22 lbs	18 lbs	22 lbs	19.5 lbs
Right	22 lbs	22 lbs	24 lbs	27 lbs	18 lbs	22 lbs	22.5 lbs



Bilateral Difference: 3.0 lbs | CV: L=9% R=12% | Bilateral Deficiency: 13.0%

\*Rating of Perceived Effort = Very hard

Reason For Incomplete Test:

Limited by pain/discomfort

Endpoint Condition:

Psychophysical

**Comments:** Hip Muscle-Extension could not be fully demonstrated due to pain/discomfort. Client attempted but unable to complete all trials at maximum effort. Limited by symptoms.

References:

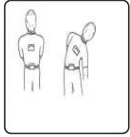
Hand-held Dynamometry for Measuring Muscle Strength, A.W. Andrews, Journal of Human Muscle Performance, pp. 35 (Jun 1991).

Shoulder Muscle-Flexion

Sample Illustration:



Range of Motion



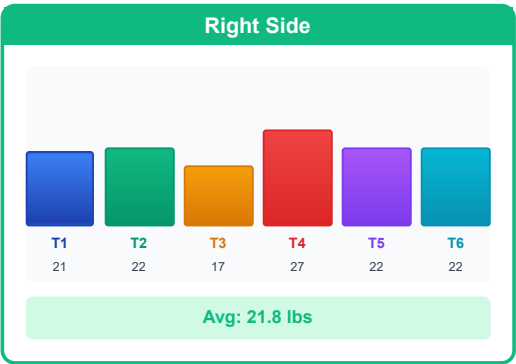
Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Shoulder Muscle-Flexion	22 deg	Pass	60 deg	36%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	20 lbs	15 lbs	14 lbs	20 lbs	18 lbs	22 lbs	18.2 lbs
Right	21 lbs	22 lbs	17 lbs	27 lbs	22 lbs	22 lbs	21.8 lbs



Bilateral Difference: 3.7 lbs   CV: L=16% R=13%   Bilateral Deficiency: 17.0%
---

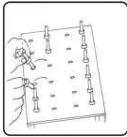
\*Rating of Perceived Effort = Somewhat hard

**Comments:** Shoulder Muscle-Flexion performed with fair to average effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials.

References:
Hand-held Dynamometry for Measuring Muscle Strength, A.W. Andrews, Journal of Human Muscle Performance, pp. 35 (Jun 1991).

Shoulder Muscle-Abduction

Sample Illustration:



Balance



Bi-Manual Handling



Carry



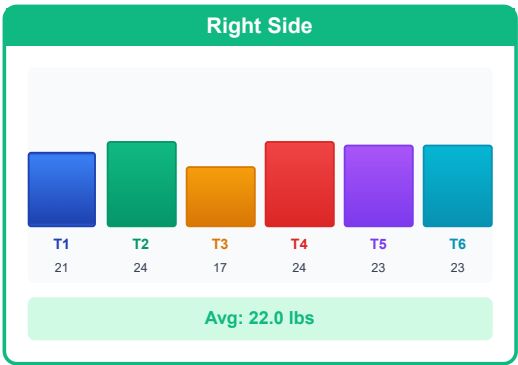
Walk

The client was tested in our facility using standardized assessment protocols. The test results were compared to normative data when available.

Results:

Demonstrated Activity	Avg. Force (lb)	Norm (lb)	% age Norm	% age CV	Difference	Test Date
	Left   Right	L   R	L   R	L   R	Prev   Total	
Shoulder Muscle-Abduction	18.7   22.0	85.0   90.0	22%   24%	11%   11%	15.0%	09/12/2025 10:05:38 AM

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	16 lbs	17 lbs	18 lbs	22 lbs	21 lbs	18 lbs	18.7 lbs
Right	21 lbs	24 lbs	17 lbs	24 lbs	23 lbs	23 lbs	22.0 lbs



Bilateral Difference: 3.3 lbs   CV: L=11% R=11%   Bilateral Deficiency: 15.0%
---

\*Rating of Perceived Effort = Very hard

Reason For Incomplete Test:

Limited by pain/discomfort

Endpoint Condition:

Psychophysical

**Comments:** Shoulder Muscle-Abduction could not be fully demonstrated due to pain/discomfort. Client attempted but unable to complete all trials at maximum effort. Limited by symptoms.

References:

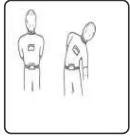
Hand-held Dynamometry for Measuring Muscle Strength, A.W. Andrews, Journal of Human Muscle Performance, pp. 35 (Jun 1991).

Cervical Spine-Flexion-Extension

Sample Illustration:



Range of Motion



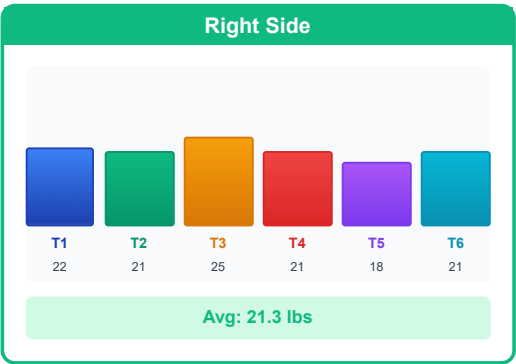
Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Cervical Spine-Flexion-Extension	21 deg	Pass	60 deg	36%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	18 lbs	19 lbs	14 lbs	22 lbs	16 lbs	17 lbs	17.7 lbs
Right	22 lbs	21 lbs	25 lbs	21 lbs	18 lbs	21 lbs	21.3 lbs



Bilateral Difference: 3.7 lbs   CV: L=14% R=10%   Bilateral Deficiency: 17.0%
---

\*Rating of Perceived Effort = Light

**Comments:** Cervical Spine-Flexion-Extension performed with good effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials. Multiple clinical observations documented.

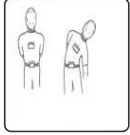
References:
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 112-135, 4th ed..
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 81-102, 3rd ed..

Lumbar Spine-Flexion-Extension

Sample Illustration:



Range of Motion



Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Lumbar Spine-Flexion-Extension	23 deg	Pass	60 deg	38%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	20 lbs	17 lbs	14 lbs	22 lbs	15 lbs	15 lbs	17.2 lbs
Right	22 lbs	23 lbs	18 lbs	28 lbs	26 lbs	20 lbs	22.8 lbs



Bilateral Difference: 5.7 lbs   CV: L=17% R=15%   Bilateral Deficiency: 25.0%
---

\*Rating of Perceived Effort = Hard (heavy)

**Comments:** Lumbar Spine-Flexion-Extension performed with good effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials. Multiple clinical observations documented.

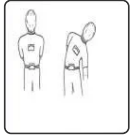
References:
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 112-135, 4th ed..
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 81-102, 3rd ed..

Shoulder Rom-Flexion-Extension

Sample Illustration:



Range of Motion



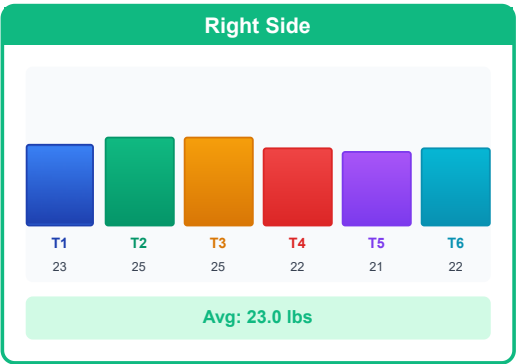
Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Shoulder Rom-Flexion-Extension	23 deg	Pass	60 deg	38%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	15 lbs	22 lbs	15 lbs	17 lbs	22 lbs	15 lbs	17.7 lbs
Right	23 lbs	25 lbs	25 lbs	22 lbs	21 lbs	22 lbs	23.0 lbs



Bilateral Difference: 5.3 lbs   CV: L=18% R=7%   Bilateral Deficiency: 23.0%
--

\*Rating of Perceived Effort = Hard (heavy)

**Comments:** Shoulder Rom-Flexion-Extension performed with good effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials. Multiple clinical observations documented.

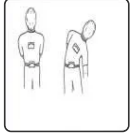
References:
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 112-135, 4th ed..
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 81-102, 3rd ed..

Hip Rom-Flexion-Extension

Sample Illustration:



Range of Motion



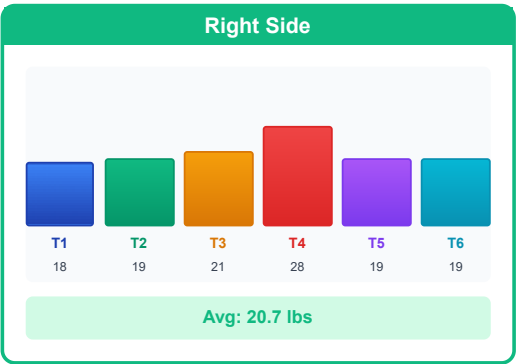
Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Hip Rom-Flexion-Extension	21 deg	Pass	60 deg	34%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	15 lbs	17 lbs	18 lbs	17 lbs	21 lbs	21 lbs	18.2 lbs
Right	18 lbs	19 lbs	21 lbs	28 lbs	19 lbs	19 lbs	20.7 lbs



Bilateral Difference: 2.5 lbs | CV: L=12% R=16% | Bilateral Deficiency: 12.0%

\*Rating of Perceived Effort = Hard (heavy)

**Comments:** Hip Rom-Flexion-Extension performed with good effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials. Multiple clinical observations documented.

References:

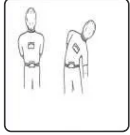
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 112-135, 4th ed..  
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 81-102, 3rd ed..

Thumb Ip-Flexion-Extension

Sample Illustration:



Range of Motion



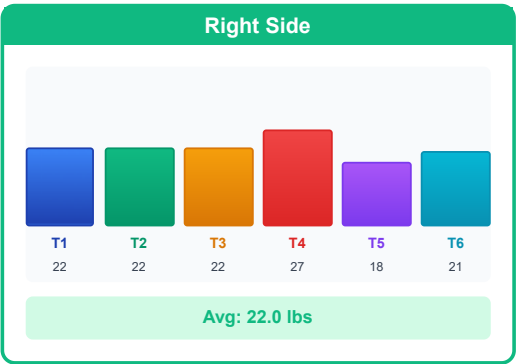
Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Thumb Ip-Flexion-Extension	22 deg	Fail	60 deg	37%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	13 lbs	18 lbs	16 lbs	18 lbs	20 lbs	18 lbs	17.2 lbs
Right	22 lbs	22 lbs	22 lbs	27 lbs	18 lbs	21 lbs	22.0 lbs



Bilateral Difference: 4.8 lbs   CV: L=13% R=12%   Bilateral Deficiency: 22.0%
---

\*Rating of Perceived Effort = Very hard

Reason For Incomplete Test:

Limited by pain/discomfort

Endpoint Condition:

Psychophysical

**Comments:** Thumb Ip-Flexion-Extension could not be fully demonstrated due to pain/discomfort. Client attempted but unable to complete all trials at maximum effort. Limited by symptoms.

References:

Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 90-92, 4th ed..  
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 20-38, 101, 3rd ed..

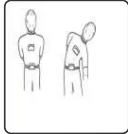


Index Dip-Flexion-Extension

Sample Illustration:



Range of Motion



Lateral Flexion

The client was tested in our facility using range of motion inclinometers. The test results were compared to normative data when available.

Results:

Area Evaluated:	Data:	Valid?	Norm:	% of Norm:	Test Date
Index Dip-Flexion-Extension	22 deg	Pass	60 deg	37%	09/12/2025

Side	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Average
Left	19 lbs	18 lbs	19 lbs	18 lbs	14 lbs	22 lbs	18.3 lbs
Right	16 lbs	22 lbs	18 lbs	26 lbs	23 lbs	27 lbs	22.0 lbs



Bilateral Difference: 3.7 lbs   CV: L=13% R=18%   Bilateral Deficiency: 17.0%
---

\*Rating of Perceived Effort = Light

**Comments:** Index Dip-Flexion-Extension performed with good effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials. Multiple clinical observations documented.

References:

Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 90-92, 4th ed..  
Guides to the Evaluation of Permanent Impairment, American Medical Association, pp. 20-38, 101, 3rd ed..

## Mcaft Step-Test

## Sample Illustration:



mCAFT Step Test

mCAFT is designed to give information about the aerobic fitness of a person, while using minimal equipment. The subject works by lifting its own body weight up and down double steps (40.6 cm in height total) while listening to set cadences from a compact disc. The end-stage of the age and gender specific stepping rate requires 65% of the age-predicted maximum heart rate. The heart rate increases approximately in a linear fashion from 50% to 100% of maximal oxygen intake. The heart rate does not decrease significantly during the first fifteen seconds of recovery ( $O_2$  in). Thus, one can predict an aerobic fitness using the heart rate right after exercise of a known sub-maximal rate of working.

## Results:

mCAFT (Modified Canadian Aerobic Fitness Test), is designed to give information about the aerobic fitness of a person, while using minimal equipment. The subject works by lifting its own body weight up and down double steps (40.6 cm in height total) while listening to set cadences from a compact disc. The end-stage of the age and gender specific stepping rate requires 65% of the age-predicted maximum heart rate. The heart rate increases approximately in a linear fashion from 50% to 100% of maximal oxygen intake. The heart rate does not decrease significantly during the first fifteen seconds of recovery ( $O_2$  in). Thus, one can predict an aerobic fitness using the heart rate right after exercise of a known sub-maximal rate of working.

## Starting stepping stage by gender

Age	Males	Females
15-19	4	3
20-29	4	3
30-39	3	2
40-49	3	2
50-59	2	2
60-69	2	1

## Oxygen cost in ml/kg/min

Stage	Stepping cadence (Females)	Stepping cadence (Males)	oxygen cost (Females)	Oxygen cost (Males)
1	24	24	15.3	15.9
2	27	27	18.0	18.6
3	30	30	20.7	21.3
4	33	33	23.4	24.0
5	36	36	26.1	26.7

mCAFT (Modified Canadian Aerobic Fitness Test) EQUATIONS TO PREDICT  $VO_2$  MAX

$$VO_2 \text{ max (ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}) = 17.2 + (1.29 \times O_2 \text{ cost of the last completed stage}) - (0.09 \times \text{mass in kg}) - (0.18 \times \text{age in years})$$

$$VO_2 \text{ max (ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}) = 17.2 + (1.29 \times \text{____}) - (0.09 \times \text{____ kg}) - (0.18 \times \text{____})$$

Note:  $O_2$  cost is provided in Table 2 on the back of this worksheet.

Predicted  $VO_2$  max: 28 ml/kg/min (ml $\cdot$ kg $^{-1}$  $\cdot$ min $^{-1}$ ) HBR: 129 bpm

\*Rating of Perceived Effort = Very hard

**Test Images:**

**Note:** The above images provide visual documentation of the Mcaft Step-Test test procedures and results.

**Comments:** *Mcaft Step-Test could not be fully demonstrated due to pain/discomfort. Client attempted but unable to complete all trials at maximum effort. Limited by symptoms.*

**References:**

- Weller et al. Prediction of maximal oxygen uptake from a modified Canadian aerobic fitness test. Can. J. Appl. Physiol. 18(2) 175-188, 1993
- Weller et al. A study to validate the Canadian aerobic fitness test. Can. J. Appl. Physiol. 20(2) 211-221, 1995

## Bruce Treadmill-Test

### Sample Illustration:



Bruce Protocol

The Bruce Treadmill Test (Bruce Protocol) is commonly used to help identify a person's level of aerobic endurance by providing an all-out maximal oxygen uptake or  $\text{VO}_2$  max, which measures the capacity to perform sustained exercise and is linked to aerobic endurance.

### Results:

#### Protocol Stages

The Bruce protocol involves getting on a treadmill and increasing speed and incline every three minutes (in stages). The test stops when you've hit 85% of your maximum heart rate, your heart rate exceeds 115 beats per minute for two stages, or it is deemed that the test should no longer continue. If your heart rate changes more than six beats per minute between the second and third minute of any given stage, you are kept at the same speed & incline for an additional minute. (As your HR has not achieved a steady state).

#### Measuring $\text{VO}_2$ Max:

Maximal oxygen uptake ( $\text{VO}_2$  max) refers to the maximum amount of oxygen an individual can use during intense or maximal exercise. It is measured as milliliters of oxygen used in one minute per kilogram of body weight (ml/kg/min).

The Bruce treadmill test is an indirect maximal oxygen uptake test. It is indirect because it estimates  $\text{VO}_2$  max using a formula and the person's performance on a treadmill as the workload increases.

When the Bruce protocol formula is used, T stands for total time on the treadmill and is measured as a fraction of a minute. If test time of 10 minutes 15 seconds would be written as  $T=10.25$ ; this formula changes based on gender. The time you spend on the treadmill is your test score and can be used to estimate your  $\text{VO}_2$  max value. Blood pressure and ratings of perceived exertion are also often collected during the Bruce protocol test.

**Men:**  $14.8 - (1.379 \times T) + (0.451 \times T^2) - (0.012 \times T^3) = \text{VO}_2 \text{ max}$

**Women:**  $4.38 \times T - 3.9 = \text{VO}_2 \text{ max}$

#### Bruce Treadmill Test Stages, Speeds, and Inclines:

Stage	Treadmill Speed	Treadmill Incline
1	1.7 mph	10% grade
2	2.5 mph	12% grade
3	3.4 mph	14% grade
4	4.2 mph	16% grade
5	5.0 mph	18% grade
6	5.5 mph	20% grade
7	6.0 mph	22% grade

**CLASSIFICATION:** Good  **$\text{VO}_2$  MAX:** 43 ml/kg/min

#### $\text{VO}_2$ Max Norms for Men as Measured in ml/kg/min

Age	Excellent	Good	Above Average	Average	Below Average	Poor	Very Poor
20-29	>56	50-56	46-49	42-45	37-41	31-36	<31
30-39	>54	48-54	44-47	40-43	35-39	29-34	<29
40-49	>52	46-52	42-45	38-41	33-37	27-32	<27
50-59	>50	44-50	40-43	36-39	31-35	25-30	<25
60+	>48	42-48	38-41	34-37	29-33	23-28	<23

VO<sub>2</sub> Max Norms for Women as Measured in ml/kg/min

Age	Excellent	Good	Above Average	Average	Below Average	Poor	Very Poor
20-29	>49	43-49	39-42	35-38	31-34	25-30	<25
30-39	>47	41-47	37-40	33-36	29-32	23-28	<23
40-49	>45	39-45	35-38	31-34	27-30	21-26	<21
50-59	>43	37-43	33-36	29-32	25-28	19-24	<19
60+	>41	35-41	31-34	27-30	23-26	17-22	<17

\*Rating of Perceived Effort = Very hard

## Test Images:

**Note:** The above images provide visual documentation of the Bruce Treadmill-Test test procedures and results.

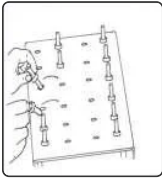
**Comments:** Bruce Treadmill-Test could not be fully demonstrated due to pain/discomfort. Client attempted but unable to complete all trials at maximum effort. Limited by symptoms.

## References:

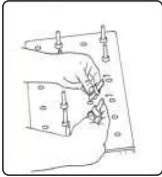
- Bires AM, Lawson D, Wasser TE, Raber-Baer D. Comparison of Bruce treadmill exercise test protocols: is ramped Bruce equal or superior to standard bruce in producing clinically valid studies for patients presenting for evaluation of cardiac ischemia or arrhythmia with body mass index equal to or greater than 30? J Nucl Med Technol. 2013 Dec;41(4):274-8
- Poehling CP, Llewellyn TL. The Effects of Submaximal and Maximal Exercise on Heart Rate Variability. Int J Exerc Sci. 2019;12(2):9-14.

## Occupational Tasks Methods Time Measurement Analysis

## Sample Illustration:



Balance



Bi-Manual Handling



Carry



Walk

The client was tested in our facility using MTM. The test results were compared to industrial standards.

Fingering - 12/09/2025 23:21:38							
Trial:	Side:	Weight/Plane:	Distance/Posture:	Reps:	Time (sec)	%IS	Time Set Completed
1	Both	Immediate	Standing	10	9.1	148.5	
2	Both	Immediate	Standing	10	14.3	111.0	
3	Both	Immediate	Standing	10	16.0	99.5	
Avg.				10	13.13	119.67	39.4
Total IS%						119.7%	

Heart Rate: Pre: 65 bpm Post: 116 bpm

**Comments:** Fingering performed with good effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials. Multiple clinical observations documented.

Handling - 12/09/2025 23:21:38							
Trial:	Side:	Weight/Plane:	Distance/Posture:	Reps:	Time (sec)	%IS	Time Set Completed
1	Both	Immediate	Standing	10	6.2	205.8	
2	Both	Immediate	Standing	10	9.0	175.0	
3	Both	Immediate	Standing	10	7.2	194.8	
Avg.				10	7.47	191.87	22.4
Total IS%						191.9%	

Heart Rate: Pre: 70 bpm Post: 87 bpm

**Comments:** Handling could not be fully demonstrated due to pain/discomfort. Client attempted but unable to complete all trials at maximum effort. Limited by symptoms.

Reach Immediate - 12/09/2025 23:21:38							
Trial:	Side:	Weight/Plane:	Distance/Posture:	Reps:	Time (sec)	%IS	Time Set Completed
1	Both	Front	Standing	6	15.7	32.5	
2	Both	Front	Standing	6	8.4	73.8	
3	Both	Front	Standing	6	8.0	77.0	
Avg.				6	10.70	61.10	32.1
Total IS%						61.1%	

Heart Rate: Pre: 70 bpm Post: 100 bpm

**Comments:** Reach Immediate performed with good effort. Client demonstrated good understanding of test requirements and maintained consistent performance throughout all trials. Multiple clinical observations documented.

**References:**

- Anderson, D.S. and Edstrom D.P. "MTM Personnel Selection Tests; Validation at a Northwestern National Life Insurance Company". *Journal of Methods-Time Measurement*, 15, (3).
- Birdsong, J.H. and Chyatte, S.B. (1970) "Further medical applications of methods-time measurement". *Journal of Methods-Time Measurement*, 15, 19-27.
- Brickey, "MTM in a Sheltered Workshop". *Journal of Methods-Time Measurement*, 8, (3) 2-7.
- Chyatte, S.B. and Birdsong, J.H. (1972) "Methods time measurement in assessment of motor performance". *Archives of Physical Medicine and Rehabilitation*, 53, 38-44.
- Foulke, J.A. "Estimating Individual Operator Performance". *Journal of Methods-Time Measurement*, 15, (1) 18-23.
- Grant, G.W.B., Moores, B. and Whelan, E. (1975) "Applications of Methods-time measurement in training centers for the mentally handicapped". *Journal of Methods-Time Measurement*, 11, 23-30.

## Appendix One: Reference Charts

### Perceived Exertion and Pain Scales

Perceived Exertion	Rating (RPE)	Minimal Heart Rate	Mean Heart Rate	Maximal Heart Rate
no exertion at all	6	69	77	91
extremely light	7	76	85	101
	8	83	93	111
very light	9	89	101	122
	10	96	110	132
light	11	103	118	142
	12	110	126	153
somewhat hard	13	116	135	163
	14	123	143	173
hard (heavy)	15	130	151	184
	16	137	159	194
very hard	17	143	168	204
	18	150	176	215
extremely hard	19	157	184	225
maximal exertion	20	164	193	235

\*Borg G. Borg's Perceived Exertion and Pain Scales. Human Kinetics. 1998.

### Physical Demand Characteristics of Work

Physical Demand Characteristics of Work			
(Dictionary of Occupational Titles - Volume II, Fourth Edition, Revised 1991)			
Physical Demand Level	OCCASIONAL 0-33% of the workday	FREQUENT 34-66% of the workday	CONSTANT 67-100% of the workday
<b>Sedentary</b>	1 - 10 lbs.	Negligible	Negligible
<b>Light</b>	11 - 20 lbs.	1 - 10 lbs.	Negligible
<b>Medium</b>	21 - 50 lbs.	11 - 25 lbs.	1 - 10 lbs.
<b>Heavy</b>	51 - 100 lbs.	26 - 50 lbs.	11 - 20 lbs.
<b>Very Heavy</b>	Over 100 lbs.	Over 50 lbs.	Over 20 lbs.



## PDC Categories based on Sustainable Energy Level

PDC Categories based on Sustainable Energy Level (Energy Cost) over an 8-hour workday	
PDC Category	Sustainable Energy Level
Sedentary	< 1.7 Kcal/min
Light	1.7 to 3.2 Kcal/min
Medium	3.3 to 5.7 Kcal/min
Heavy	5.8 to 8.2 Kcal/min
Very Heavy	8.3 or more Kcal/min

## General Patterns of Activity Descriptors

### (S) Sedentary Work

Exerting up to 10 lbs of force occasionally and/or a negligible amount of force frequently to lift, carry, push, pull, or otherwise move objects, including the human body. Sedentary work involves sitting most of the time but may involve walking or standing for brief periods of time. Jobs are sedentary if walking and standing are required occasionally and all other sedentary criteria are met.

### (L) Light Work

Exerting up to 20 lb of force occasionally, and/or up to 10 lb of force frequently, and/or a negligible amount of force constantly to move objects. Physical demand requirements are in excess of those for sedentary work. Even though the weight lifted may be only negligible, a job should be rated "Light Work: (1) when it requires walking or standing to a significant degree; or (2) when it requires sitting most of the time but entails pushing and/or pulling of arm or leg controls; and/or (3) when the job requires working at a production rate pace entailing the constant pushing and/or pulling of materials even though the weight of those materials is negligible. The constant stress and strain of maintaining a production rate pace, especially in an industrial setting, can be and is physically exhausting.

### (M) Medium Work

Exerting 20 to 50 lbs of force occasionally, and/or 10 to 25 lbs of force frequently, and/or greater than negligible up to 10 lbs of force constantly to move objects. Physical demand requirements are in excess of those for light work.

### (H) Heavy Work

Exerting 50 to 100 lbs of force occasionally, and/or 25 to 50 lbs of force frequently, and/or 10 to 20 lbs of force constantly to move objects. Physical demand requirements are in excess of those for medium work.

*\*"Occasionally" indicates that an activity or condition exists up to one third of the time; "frequently" indicates that an activity or condition exists from one third to two thirds of the time; "constantly" indicates that an activity or condition exists two thirds or more of the time.*

## Dynamic Lift Test End Point Conditions

Test End Point Conditions	
CONDITION	DESCRIPTION
Psychophysical	Voluntary test termination by the claimant based on complaints of fatigue, excessive discomfort, or inability to complete the required number of movements during the testing interval (cycle).
Physiological	Achievement of an age-determined target heart rate (based on a percent of claimant's maximal heart rate - normally 85%, or in excess of 75% continuously for one minute).
Safety	Achievement of a predetermined anthropometric safe lifting limit based on the claimant's adjusted body weight; or intervention by the FACTS evaluator based upon an evaluation of the claimant's signs & symptoms.

Appendix Two: Digital Library

