

MAN452

**Models 78010
78011**

Hand Dynamometer User Instructions



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Description

The Hand Dynamometer is used to secure an index of general body strength, also to measure right hand vs. left hand strength for comparative purposes. When combined with other forms of strength measurement it allows a much more precise measurement of body strength. The Model 78010 and Model 78011 are an updated version of the Smedley Dynamometer. The Model 78010 measures from 0-100 kilograms and is used primarily with adult males. The Model 78011 may be used with children, most adolescents, and adult females for a more precise measurement.

Operation

1. Before this test is administered, the handle of the dynamometer must be adjusted for the size of each individual subject. The handle should fit comfortably in the hand with enough allowance for a good grip. Record the setting found on the inside gauge if follow-up testing is to occur.
2. Place the subjects arm at their side keeping it away from the body with the elbow bent slightly (approximately 20°). Illustrate the use of the instrument to the subject prior to testing.
3. The test is to be administered with dominant hand first and then with the non-dominant hand. The examiner should be confident that the subject's maximum grip strength is being measured. Emphasis on "squeeze as hard as you possible can" and other forms of encouragement may be necessary for maximum effect. Allow three trials with each hand, right and left hand alternately, but introduce a brief pause of about 10 to 20 seconds between each trial to avoid excessive fatigue.
4. Record the amount of strength registered at each trial. If the difference between the scores of each is within 3 kilograms, (considering the scores of each hand separately) the test is complete. If a difference of more than 3 kilograms is noted, the test is repeated after a sufficient rest period. Calculate the averages for each hand separately. It is important that the dials be returned to the "0" position after every trial. Readings are taken to the nearest whole kilogram.
5. Compare your findings with the norms included on the following pages. The dynamometer test scores for males and females have been included on Page 2. All results are in kilograms.

Hand Dynamometer Norms from Ronald L. Trites, Ph.D. Neuropsychological Test Manual

Age	Male				Female			
	Dominant		Non-Dominant		Dominant		Non-Dominant	
	M	SD	M	SD	M	SD	M	SD
5	7	3.04	6	3.02	5	2.81	5	2.67
6	8	3.05	7	2.97	7	2.95	7	2.96
7	10	3.21	9	3.39	8	3.46	8	3.38
8	12	4.67	11	4.65	10	3.38	10	3.55
9	12	3.74	10	3.98	9	4.29	9	4.19
10	14	4.30	12	4.04	11	3.28	10	3.73
11	16	6.98	14	6.09	13	4.47	12	4.16
12	19	7.14	17	6.90	16	6.22	15	4.17
13	22	9.72	20	9.34	17	7.75	16	7.05
14	27	9.00	25	8.95	18	7.26	16	6.76

NOTE: The Mean and Standard Deviation for dominant and non-dominant hand are provided by age and gender measured in kilograms.

Normative Data for the Sample Stratified by Age and Sex

Age	N	Preferred Hand			Nonpreferred Hand		
		M	SD	Range	M	SD	Range
Males							
15-17	17	38.0*	8.4	22.2 - 51.0	35.8	9.6	26.7 - 57.5
18-23	43	49.7	9.7	30.0 - 71.2	46.6	9.9	26.7 - 73.0
24-32	31	51.8	8.1	37.0 - 65.5	49.6	7.2	30.5 - 66.0
33-40	12	52.9	8.3	41.0 - 67.0	51.2	7.9	36.2 - 58.7
41-64	4	44.5	10.9	30.5 - 57.0	47.9	11.9	32.0 - 58.7
Females							
15-17	15	28.1	5.0	21.0 - 37.5	26.3	5.2	17.8 - 33.5
18-23	29	28.8	7.8	8.5-43.8	26.4	6.2	13.5 - 38.0
24-32	24	34.4	9.2	20.5-64.7	30.2	6.8	20.5 - 49.5
33-40	6	27.7	3.2	23.0-31.5	28.6	3.1	25.2 - 33.5
41-64	6	28.0	6.2	18.7-37.5	24.1	6.8	16.7 - 36.5

* Kilogram average of 2 trials

From HANDBOOK OF NORMATIVE DATA FOR NEUROPSYCHOLOGICAL ASSESSMENT by Maura Mitrushina, Kyle Brauer-Boone, and Louis D'Elia, copyright © 1999 by Maura Mitrushina, Kyle Brauer-Boone, and Louis D'Elia. Used by permission of Oxford University Press, Inc.

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Phone, Fax, Email or Mail-in Orders

All orders need to be accompanied by a hard copy of your purchase order. All orders must include the following information:

- Quantity
- Part Number
- Description
- Your purchase order number or method of pre-payment
- Your tax status (include tax-exempt numbers)
- Shipping address for this order
- Billing address for the invoice we'll mail when this order is shipped
- Signature and typed name of person authorized to order these products
- Your telephone number
- Your email address
- Your FAX number

Domestic Terms

There is a \$50 minimum order. Open accounts can be extended to most recognized businesses. Net amount due 30 days from the date of shipment unless otherwise specified by us. Enclose payment with the order; charge with VISA, MasterCard, American Express, or pay COD. We must have a hard copy of your purchase order by mail, E-mail or fax. Students, individuals and private companies may call for a credit application.

International Payment Information

There is a \$50 minimum order. Payment must be made in advance by: draft drawn on a major US bank; wire transfers to our account; charge with VISA, MasterCard, American Express, or confirmed irrevocable letter of credit. Proforma invoices will be provided upon request.

Exports

If ordering instrumentation for use outside the USA, please specify the country of ultimate destination, as well as the power requirements (110V/60Hz or 220V/50Hz). Some model numbers for 220V/50Hz will have a "C" suffix.

Quotations

Quotations are supplied upon request. Written quotations will include the price of goods, cost of shipping and handling, if requested, and estimated delivery time frame. Quotations are good for 30 days, unless otherwise noted. Following that time, prices are subject to change and will be re-quoted at your request.

Cancellations

Orders for custom products, custom assemblies or instruments built to customer specifications will be subject to a cancellation penalty of 100%. Payment for up to 100% of the invoice value of custom products may be required in advance. Cancellation for a standard Lafayette Instrument manufactured product once the product has been shipped will normally be assessed a charge of 25% of the invoice value, plus shipping charges. Resell items, like custom products, will be subject to a cancellation penalty of 100%.

Exchanges and Refunds

Please see the cancellation penalty as described above. No item may be returned without prior authorization of Lafayette Instrument Company and a Return Goods Authorization (RGA#) number which must be affixed to the shipping label of the returned goods. The merchandise should be packed well, insured for the full value and returned along with a cover letter explaining the reason for return. Unopened merchandise may be returned prepaid within thirty (30) days after receipt of the item and in the original shipping carton. Collect shipments will not be accepted. Product must be returned in saleable condition, and credit is subject to inspection of the merchandise.

>Returns

Instrumentation may not be returned without first receiving a Return Goods Authorization Number (RGA). When returning instrumentation for service,

please call Lafayette Instrument to receive a RGA number. Your RGA number will be good for 30 days. Address the shipment to:

Lafayette Instrument Company

3700 Sagamore Parkway North

Lafayette, IN 47904, USA.

Shipments cannot be received at the PO Box. The items should be packed well, insured for full value, and returned along with a cover letter explaining the malfunction. An estimate of repair will be given prior to completion ONLY if requested in your enclosed cover letter. We must have a hard copy of your purchase order by mail or fax, or repair work cannot commence for non-warranty repairs.

Damaged Goods

Damaged instrumentation should not be returned to Lafayette Instrument prior to a thorough inspection. If a shipment arrives damaged, note damage on delivery bill and have the driver sign it to acknowledge the damage. Contact the delivery service, and they will file an insurance claim. If damage is not detected at the time of delivery, contact the carrier/shipper and request an inspection within 10 days of the original delivery. Please call the Lafayette Instrument Customer Service Department for repair or replacement of the damaged merchandise.

Limited Warranty

Lafayette Instrument Company warrants equipment manufactured by the company to be free of defects in material and workmanship for a period of one year from the date of shipment, except as provided hereinafter. The original manufacturer's warranty will be honored by Lafayette Instrument for items not manufactured by Lafayette Instrument Company, i.e. resell items. This assumes normal usage under commonly accepted operating parameters and excludes consumable products.

Warranty period for repairs or used instrumentation purchased from Lafayette Instrument is 90 days. Lafayette Instrument Company agrees either to repair or replace, at its sole option and free of part charges to the customer, instrumentation which, under proper and normal conditions of use, proves to be defective within the warranty period. Warranty for any parts of such repaired or replaced instrumentation shall be covered under the same limited warranty and shall have a warranty period of 90 days from the date of shipment or the remainder of the original warranty period whichever is greater. This warranty and remedy are given expressly and in lieu of all other warranties, expressed or implied, of merchantability or fitness for a particular purpose and constitutes the only warranty made by Lafayette Instrument Company.

Lafayette Instrument Company neither assumes nor authorizes any person to assume for it any other liability in connection with the sale, installation, service or use of its instrumentation. Lafayette Instrument Company shall have no liability whatsoever for special, consequential, or punitive damages of any kind from any cause arising out of the sale, installation, service or use of its instrumentation. All products manufactured by Lafayette Instrument Company are tested and inspected prior to shipment. Upon prompt notification by the Customer, Lafayette Instrument Company will correct any defect in warranted equipment of its manufacture either, at its option, by return of the item to the factory, or shipment of a repaired or replacement part. Lafayette Instrument Company will not be obliged, however, to replace or repair any piece of equipment, which has been abused, improperly installed, altered, damaged, or repaired by others. Defects in equipment do not include decomposition, wear, or damage by chemical action or corrosion, or damage incurred during shipment.

Limited Obligations Covered by this Warranty

1. In the case of instruments not of Lafayette Instrument Company manufacture, the original manufacturer's warranty applies.
2. Shipping charges under warranty are covered only in one direction. The customer is responsible for shipping charges to the factory if return of the part is required.
3. This warranty does not cover damage to components due to improper installation by the customer.
4. Consumable and/or expendable items, including but not limited to electrodes, lights, batteries, fuses, O-rings, gaskets, and tubing, are excluded from warranty.
5. Failure by the customer to perform normal and reasonable maintenance on instruments will void warranty claims.
6. If the original invoice for the instrument is issued to a company that is not the company of the end user, and not an authorized Lafayette Instrument Company distributor, then all requests for warranty must be processed through the company that sold the product to the end user, and not directly to Lafayette Instrument Company.

Export License

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