1. Was hand grip strength testing performed?

[ ] Yes [ ] No

1. Date Performed: (yyyy-mm-dd)
2. Handedness: [ ] Left hand [ ] Right hand [ ] Both [ ] Unknown

Table 1 Grip Strength

| Handedness | Grip Device Width Setting | Max Grip –Trial 1(Indicate units: pounds, kilograms or newtons) | Max Grip –Trial 2(Indicate units: pounds, kilograms or newtons) |
| --- | --- | --- | --- |
| Left | Data to be filled in by site | [ ] lb[ ] kg[ ] N | [ ] lb[ ] kg[ ] N |
| Right  | Data to be filled in by site | [ ] lb[ ] kg[ ] N | [ ] lb[ ] kg[ ] N |

## General Instructions

This CRF includes data typically recorded when measuring the maximum strength of the hand and forearm muscles.

Important note: All the data elements on this CRF Module are classified as Supplemental – Highly Recommended for Facioscapulohumeral Muscular Dystrophy (FSHD) studies involving muscle strength testing.

## Specific Instructions

Please see the Data Dictionary for definitions for each of the data elements included in this CRF Module.

* Grip strength performed date and time–The date/time should be recorded to the level of granularity known (e.g., year, year and month, complete date plus hours and minutes, etc.) and in the format acceptable to the study database.
* Hand preference–Choose one. The predominant hand does not have to be the hand that he/she writes with. Unknown should be known in the scenario for rare instances when handedness cannot be known.
* Maximum measurement–Answer for each hand side in pounds, kilograms or newtons.

## References

### Validation of Hand Grip Strength in FSHD:

Personius, K. E., S. Pandya, et al. (1994). "Facioscapulohumeral dystrophy natural history study: standardization of testing procedures and reliability of measurements. The FSH DY Group." Phys Ther 74(3): 253-263.

### Use of Hand Grip Strength in FSHD clinical trials:

Kissel, J. T., M. P. McDermott, et al. (2001). "Randomized, double-blind, placebo-controlled trial of albuterol in facioscapulohumeral dystrophy." Neurology 57(8): 1434-1440.

Wagner, K. R., J. L. Fleckenstein, et al. (2008). "A phase I/IItrial of MYO-029 in adult subjects with muscular dystrophy." Ann Neurol 63(5): 561-571.

van der Kooi, E. L., O. J. Vogels, et al. (2004). "Strength training and albuterol in facioscapulohumeral muscular dystrophy." Neurology 63(4): 702-708.

### General Association Studies for Hand Grip Strength and mortality and morbidity:

Cooper R, Kuh D, Hardy R. Objectively measured physical capability levels and mortality: systematic review and meta-analysis. BMJ. 2010;341:c4467. Epub 2010/09/11. doi: 10.1136/bmj.c4467. PubMed PMID: 20829298; PubMed Central PMCID: PMC2938886.

Newman AB, Kupelian V, Visser M, Simonsick EM, Goodpaster BH, Kritchevsky SB, et al. Strength, but not muscle mass, is associated with mortality in the health, aging and body composition study cohort. The journals of gerontology Series A, Biological sciences and medical sciences. 2006;61(1):72-7. Epub 2006/02/04. PubMed PMID: 16456196.