

# Assessment & HDD

## Resources



### Assessing 1 Rep Max

There are several different approaches to do this, essentially progressively increase the load to find the 1 RM.

- ▶ Select resistance assessment exercise (select less technical lifts for novices)
- ▶ Participant performs warm-up 3-5 sub-maximal sets of same resistance exercise (select estimated intensity 50-80% of perceived 1RM and number of reps. e.g. 8 reps of participant perceived 50% 1RM) with 2 mins rest between sets
- ▶ Participant selects weight of perceived ~70% of 1RM
- ▶ Participant performs lift,. If they can perform >1 rep Increase the weight. The closer they come to the 1 RM, the smaller the increments in weight will be.
- ▶ Provide strong verbal encouragement throughout
- ▶ Ensure a minimum of 2 minutes separates each attempt

# Assessing Performance

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A podcast episode card with a dark blue header on the left containing the text 'JOSPT Insights' in white. The main body is light gray and contains the text: 'Ep 32: Rate of force development—a force to be reckoned with in sport, with Dr Claire Minshull', followed by a truncated title '-...' and a Spotify link icon followed by 'open.spotify.com'.

**LINK:** <https://open.spotify.com/episode/5X0XDrjeNRwOCEaoX4Mx3D>

# Assessing Performance

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### Selected References

Perez et al (2019). Acute effects of a single tennis match on passive shoulder rotation range of motion, isometric strength and serve speed in professional tennis players PLoS ONE 14(4):e0215015

**LINK:** <https://journals.plos.org/plosone/article/figure?id=10.1371/journal.pone.0215015.g002>

Koblbauer et al (2011). Reliability of maximal isometric knee strength testing with modified hand-held dynamometry in patients awaiting total knee arthroplasty: useful in research and individual patient settings? A reliability study BMC Musculoskeletal Disorders, 12:249

**LINK:** <https://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/1471-2474-12-249>

Ishøi, et al (2019). MEASURES OF HIP MUSCLE STRENGTH AND RATE OF FORCE DEVELOPMENT USING A FIXATED HANDHELD DYNAMOMETER: INTRA-TESTER INTRA-DAY RELIABILITY OF A CLINICAL SET-UP. Int J Sports Phys Ther. 14(5): 715–723.

**LINK:** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6769277/>

Bui et al. (2019). Reliability of quadriceps muscle power and explosive force, and relationship to physical function in people with chronic obstructive pulmonary disease: an observational prospective multicenter study. Physical Therapy, 99 (9):1255-67

**LINK abstract:** <https://pubmed.ncbi.nlm.nih.gov/31537146/>

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### Further reading

Currell & Jeukendrup (2008). Validity, reliability and sensitivity of measures of sporting performance. *Sports Med* 38(4):297-316

**LINK**

**abstract:**

<https://pubmed.ncbi.nlm.nih.gov/18348590/>

Verdijk et al (2009). One-repetition maximum strength test represents a valid means to assess leg strength. *J Sports Sci.* 1;27(1):59-68

**LINK**

[https://cris.maastrichtuniversity.nl/ws/files/64797422/meijer\\_2009\\_one\\_repetition\\_maximum\\_strength\\_test.pdf](https://cris.maastrichtuniversity.nl/ws/files/64797422/meijer_2009_one_repetition_maximum_strength_test.pdf)