

Isometric Mid-Thigh Pull Test

Patient name: Alex Johnson Age: 23 Gender: Male

Date of test: June 6, 2024

Equipment

- Force plate
- Immovable barbell

Reminders

- Allow the athlete to warm up.
- Allow the athlete to perform 2-3 practice trials at submaximal effort (e.g. 50-75% perceived max) to get accustomed to the testing procedures.
- After the warm-up and practice attempts, athletes will perform 2-3 maximal effort IMTP trials, each lasting 3-5 seconds.
- Provide adequate rest (2-5 minutes) between maximal trials to allow for full recovery.

Procedure

1. Adjust the bar height to the athlete's mid-thigh.
2. The athlete grips the bar with a clean grip or alternating grip.
3. The athlete stands with feet shoulder-width apart on a force plate.
4. Ensure knee angle is between 125-145° and hip angle is 140-150°.
5. The athlete removes slack from the bar without pre-tensing.
6. On command, the athlete pushes their feet into the ground as hard and fast as possible for 3-5 seconds.
7. Repeat steps 6-8 for 2-3 maximal effort trials.
8. The athlete remains still until each trial is saved.

Results

Trial 1

Peak force (PF): 2800 N

Rate of force development (RFD): 22000 N/S

Time to peak force: 1.2 sec

Relative force: 3.6 N/kg

Trial 2

Peak force (PF): 2900 N

Rate of force development (RFD): 23,000 N/S

Time to peak force: 1.1 sec

Relative force: 37 N/kg

Trial 3

Peak force (PF): 2850 N

Rate of force development (RFD): 22,500 N/S

Time to peak force: 1.15 sec

Relative force: 36.5 N/kg

Best trial: 2900 N**Normative data**

For rugby players:

- Youth: 1162–2374 N
- Academy: 1855–3104 N
- Professional: 2254–3851 N

No normative data is available for other populations due to research emphasis on rugby players, despite the fact that the test can be done for collegiate athletes across a range of sports.

Examiner name: _____ Frederick Tick

Signature: _____

