Functional Test List

Aspiring and current BCAK members require a general understanding of the following assessment procedures and special tests. Knowledge competency should cover the purposes, technique and client populations to which they apply, along with the required equipment, inclusive of how to use and calibrate the equipment when applicable.

The test procedures are inclusive of those appropriate for general health, sport/human performance, clinical and occupational assessment environments.

Suggested Reference Resources:

- Functional Testing in Human Performance: 139 Tests for Sport, Fitness, Occupational Settings/Michael P Reiman, Robert C Manske, 1st Edition, Publisher: Human Kinetics ISBN-10: 0736068791
- Advanced Assessment and Exercise Prescription/Ann L. Gibson, Dale R. Wagner, Vivian H. Heyward – 9th Edition, Publisher: Burgess Publishing Company ISBN: 9781718221659
- Brukner & Khan's Clinical Sports Medicine/5th Edition, Publisher: McGraw-Hill 2016 ISBN-10: 1743761384 ISBN-13: 978-1743761380
- Principles of Athletic Training: A Guide to Evidence-Based Clinical Practice E18: ISBN 9781266760044

Other online resources are also available such as Physiopedia and StatPearls for the special tests.

Anthropometric Measurements

1. Body Mass Index (BMI)

2. Skinfold measurements for body fat analysis using Harpenden or equivalent calipers

3. Waist to hip ratio

4. Girth/bredth
    a. Calf
    b. Thigh
    c. Iliac crest (hip)
    d. Waist
    e. Chest
    f. Neck
    g. Head
    h. Upper arm

i. Forearm
j. Wrist

5. Height/length/span
    a. Standing height
    b. Torso height
    c. Pelvic Leg length (including leg length discrepancy)
    d. Arm span

Flexibility

1. Beighton Test (Score)
2. CSTF Sit & Reach test
3. Apley Scratch test
4. Standing forward bend test (fingertips to floor measurement)

Muscle length/resting tone/palpation & origin/insertion

1. Upper Extremity
    a. Upper trapezius
    b. Interscapular muscles (rhomboid, middle and lower regions of the trapezius)
    c. Sternocleidomastoid
    d. Levator scapulae
    e. Suboccipital (scalene) muscles
    f. Latissimus dorsi
    g. Pectoralis major
    h. Pectoralis minor
    i. Serratus Anterior (scapular winging)
    j. Triceps
    k. Biceps

2. Trunk
    a. Erector spinae (iliocostalis, longissimus, multifidus)
    b. Quadratus lumborum
    c. Rectus abdominus, transversus abdominus, internal/external oblique

3. Lower Extremity
    a. Hip extensors
    b. Hip flexors (quadriceps)
    c. External hip rotators
    d. Internal hip rotators
    e. Psoas
    f. Rectus femoris
    g. Tensor Fascia Latae (IT band)
    h. Hip adductors
    i. Hip abductors

j. Piriformis
k. Gastrocnemius
l. Soleus

Functional Stability and Repetitive Movement Tests

1. Static muscle testing (load tolerance)
    a. Cervical flexors, extensors and lateral flexors
    b. Trunk flexors, extensors and lateral flexors

2. Balance and Stability
    a. Single leg balance
    b. Stork test
    c. Four square test
    d. Side-step test
    e. Star excursion
    f. Romberg
    g. Hop test
    h. Pivot shift test
    i. Berg Balance test (Scale)
    j. Tandem (straight line) walk test
    k. Functional Reach Test (FRT)
    l. Dynamic Gait Index

Cardiorespiratory Testing (including GXT tests)

1. 6-minute walk test
2. 3-minute step test
3. 20m shuttle run test
4. CSTF or YMCA step test
5. Bruce and Modified Bruce Treadmill Protocol
6. ACSM Walking Test
7. Cycle ergometer testing (Astrand, ACSM)

Strength, Power, Coordination Tests

1. Carioca drill
2. Lunge test (forward, lateral)
3. 1 RM test (including how to estimate 1RM from a 5 or 10 RM submaximal test)
4. Standing two-legged jump
5. Vertical jump
6. Figure 8 hop test
7. Step down test
8. Pull up test
9. Push up test
10. Wingate

11. Squat jump test
12. Plyometric leap (triple jump) test

Speed and agility

1. T-test
2. Edgren sidestep test
3. Three cone test (L drill)

Special tests (orthopaedic & neurologic)

1. Adam's Forward Bend test
2. OBER's test
3. Noble's test
4. Thomas test
5. FABER test
6. FADIR test
7. Straight leg raise (Lasegue test)
8. Ely's test
9. Trendelenberg sign
10. Hip distraction, compression and scour tests
11. Piriformis test
12. Sacroiliac (SI) distraction, compression and shear tests
13. Fulcrum test
14. Hop test
15. Lachman test (ACL)
16. Patellar glide test
17. Anterior drawer test (ankle and knee)
18. Stork test
19. Thompson (squeeze) test
20. Kemp's test (quadrant test)
21. McKenzie (back extension) tests
22. Apley scratch test
23. Hawkins / Kennedy test
24. Sulcus test
25. O'Brien's (Active Compression) test
26. Apprehension (subluxation) test (Patella and Shoulder)
27. Yergason's test
28. Speed's test
29. Neer's test
30. Tinel's test (Sign)
31. Phalen's test (Phalen's sign)
32. Adson's test
33. Roos stress test

Functional Stability/Endurance Tests

1. Side bridge
2. Supine bridge
3. Prone bridge – full and modified (from knees)
4. Lifting – Progressive Isoinertial Lift Examination (PILE)
5. Timed up and go test (TUG) -
6. Static load tests – trunk and neck musculature
    a. lower back extension – prone
    b. upper back extension- prone
    c. lateral trunk flexion-side lying
    d. lateral neck flexion – side lying
    e. neck flexion in neutral - supine
    f. neck extension in neutral - prone