

## Senior Athlete Fitness Exam (SAFE)

These are quick-reference instructions. More complete instructions, detailed interpretations, normative data, risk interpretation, equipment information and set up guidelines are available via the SAFE course. Contact [becca.jordre@usd.edu](mailto:becca.jordre@usd.edu) to enroll.

### Cardiovascular

#### Blood Pressure

- Take blood pressure on the left arm.
- Participant should be seated with left arm supported on the table.
- Participant should remain still and quiet.

#### Heart Rate

- Taken from electronic BP cuff or via radial artery

#### % O2 Saturation

- Utilize O2 sat monitor on right hand, 4<sup>th</sup> digit (ring finger).
- This can be done while BP is taken.
- Allow enough time for the O2 to be measured (during the BP is long enough).
- Remember that the O2 might not be accurate if the athlete has nail polish on.

#### Waist circumference (remove bulky clothing, T shirts are OK)

- Have the participant stand with their abdominals relaxed.
- Place the tape around the narrowest aspect of the participant's waist. If there is no obvious waist (they have an obese waist) have them point to their belly button and measure at this point.
- Move to the side of the participant with the tape at eye-level to record the waist measurement in cm to the nearest ½ cm. Record this number.
- Flip the tape over to see your result in inches and record that on the report card as well.
- Make note if they are over 35" for women or over 40" for men they are at an increased risk for cardiovascular disease.
- Hip circumference
- Participant maintains a standing position and have FEET TOGETHER.
- Inform the participant that you are going to measure the widest aspect of their hips.
- Maintain a position to the side of the participant at eye level to the tape measure and hips
- Measure around the widest aspect of the hips in cm, this will include the extension of their buttocks in most cases.

#### Waist to Hip Ratio

- Waist in cm/Hip in cm = ratio

### Equipment for Cardiovascular

- Blood pressure cuff and stethoscope (or electronic cuff)
- Pulse Oximeter
- Retractable tape measure
- Calculator

### Strength

## Grip Strength

- Participant position: arm by the side, elbow bent to 90\*.
- Grip dynamometer will stay set to position 2.
- Participant instructions: Squeeze as tightly as you can
- Give them a practice squeeze before doing a recorded trial.
- Record each hand in **kg**
- Show the athlete where they fall on the goal chart. Record their goal on their report card.
- If they are below the goal they may want to consider more resistance training in their week. Encourage them to meet with a trainer or a PT for this. Weak grip strength is an indicator of OVERALL strength/vitality and should not be interpreted as a reason to work on squeezing.

## Five Times Sit to Stand Test

- Secure their chair by standing behind it for this test.
- Participant position: sitting in chair, arms crossed over their chest, feet flat on ground
- Participant instructions: **“You will stand and sit as quickly as you can five times. I will start timing you on the word “go” and will stop when you return to sitting after the fifth stand. You have to stand up completely each time. Your arms need to stay crossed over your chest for this test. You may sit on the edge of your chair. I will hold your chair to keep it from tipping.”**
- Tester may demonstrate the test first for each participant.
- Record the time from the word “go” until the participant sits after the 5<sup>th</sup> stand.
- Record exactly what is on the stopwatch on the results form and report card.
- Hold the chair for the participant as they complete this test.
- Be sure the participants stands all the way up and resumes sitting (even if on the edge of the chair) for each reps.
- Record exactly what is on your stopwatch.

## Equipment for Strength

- Hand grip dynamometer
- Stopwatch
- Chair

GRIP STRENGTH (kg)		
Age	Goal in kg	
	Men	Women
50-54	45	30
55-59	43	28
60-64	40	26
65-69	38	24
70-74	36	24
75-79	33	23
80-85	31	19
86+	26	18

Goals were set at one standard deviation below the mean for NSGA athletes.

## Gait Speed

### Tester wears 2 stopwatches

#### Usual Gait Speed

- Participants are instructed to walk at their usual pace (like walking in the mall or to the mailbox) from one point to another. The walking course is ideally 20 meters. The tester will time the **central 10 meters**.
- If you don't have enough space for 20 meters try to get at least 10 meters and measure the central 8 meters for calculation.
- Walk behind the participant so that you do not pace them.
- Keep result on 1<sup>st</sup> stopwatch
- With a calculator (distance in meters /stopwatch time = meters/sec)

#### Fast Gait Speed

- Fast gait speed is tested and recorded identically to usual gait speed on the return trip but the instructions to the participant are to, "walk as quickly as you can without running."
- Keep result on 2<sup>nd</sup> stopwatch

#### Gait Speed Reserve

- Fast speed – usual speed = reserve
- This is a great way to see what they have left in the tank beyond typical walking and is indicative of poor health if below .60 m/s

## Equipment for Station 4 (Gait Speed)

- 2 stopwatches
- Calculator
- Blue tape to mark the walkway
- Tape measure or measuring wheel to measure the walkway

Remove shoes and leave them off for the rest of the screen. OK to leave on if participant refuses or if conditions are poor for going in socks or bare feet.

## Flexibility

### Foam Pillow Test for Posture

- Instruct the participant to lie down on the mat with their knees bent and feet flat for flexibility screen.
- If the participant is unable to comfortably lie flat without a pillow, place a foam balance pad under their head and record posture as 'fail'. If a pillow is not needed enter 'pass'. If the athlete appears to need a pillow but refuses (or you don't have one) you should still record 'fail'.

### Shoulder Flexion

- Participants knees should remain bent with feet flat on the mat.
- Instruct the participant to actively flex their arm overhead as far as they can.
- Measure the amount of flexion with the fulcrum over the lateral aspect of the greater tubercle, the proximal arm parallel to the midaxillary line of the thorax and the distal arm along the lateral midline of the humerus.
- Don't get too picky on this, the round aspect of a large goni should rest on the mat.
- Record both sides.

### Ankle Dorsiflexion (knee straight)

- Have the participant straighten their knees and dorsiflex one ankle as far as they are able ("pull your toes up as far as you can").
- Center the fulcrum over the lateral aspect of the lateral malleolus. Align proximal arm with lateral midline of the fibula, using the head of the fibular for reference. Align distal arm parallel to the lateral aspect of the fifth metatarsal.
- Record the number of degrees they can dorsiflex past a 90\* (neutral) position.
- If they are unable to dorsiflex to the neutral position record the number of degrees they are lacking with a negative number.

### Thomas Test (hip flexor length)

- Participants are instructed to sit on the short end of the treatment table and lie back with one knee pulled to their chest.
- It helps to put a blue tape line near the end of the plinth for reference.
- Assure that the participant's flexed knee allows the lumbar lordosis to just flatten.
- If the participant's thigh rests flat on the table record this test as 'pass'.
- If the participant is unable to rest the thigh flat record this test as 'fail'.

## Equipment needed for Flexibility

- Treatment Table
- Large goniometer
- Small goniometer
- Foam Balance Pad (AirEx)

## Balance

**Assist the participant in donning a gait belt. Continue with shoes off if possible.**

Single leg stance (eyes closed)

- Demonstrate the position for single leg stance: arms crossed over the chest, one leg raised without contacting the opposite leg.
- Allow the participant to choose the leg they will stand on.
- Stand close to the participant and allow them to practice briefly with their eyes open.
- Inform the athlete that you will start timing them once they are balanced on one foot AND close their eyes.
- Time up to 30 seconds for a max of 3 trials
- Stop timing at 30 seconds OR if the participant shifts their foot, touches their legs together, places their foot down to balance or opens their eyes.
- The participants score is the best of 3 trials with a 30 second ceiling.
- **You may stop trials as soon as they get one at 30. Thus, if they can do 30 seconds eyes closed they move to the foam trial without more attempts.**

Single leg stance (on foam eyes open)

- Demonstrate the position for single leg stance on foam: arms crossed over the chest, one leg raised without contacting the opposite leg.
- Same instructions as above but with eyes open.
- The participants score is the best of 3 trials with a 30 second ceiling.

### Equipment for Station 6 (Balance)

- Gait Belt
- Three stopwatches
- Foam Balance Pad