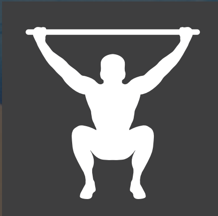
Name:

Level 1

ONLINE VERSION 11



FUNCTIONAL MOVEMENT SCREEN

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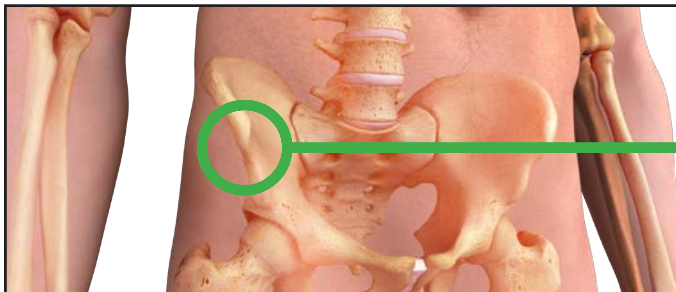
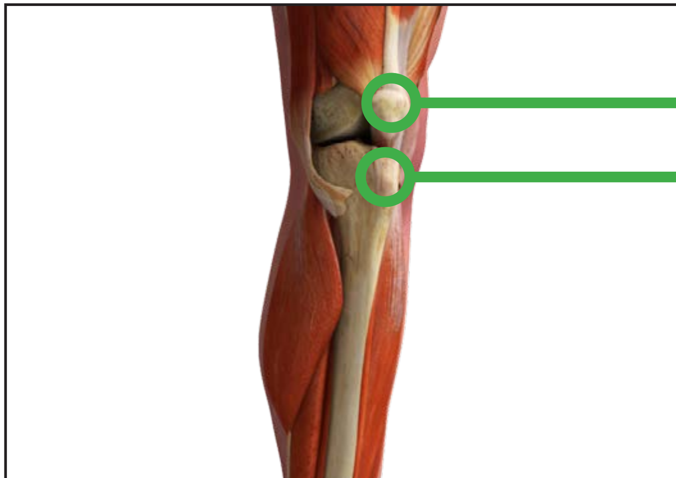
Screening Guidelines

ANATOMICAL LANDMARKS

To administer the FMS correctly, you'll need to be familiar with the following bone structures or superficial landmarks.

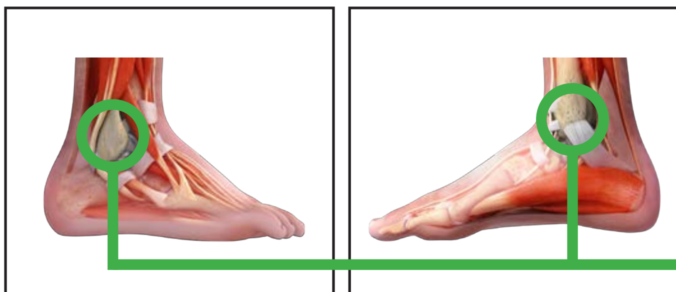


Anterior superior iliac spine (ASIS)

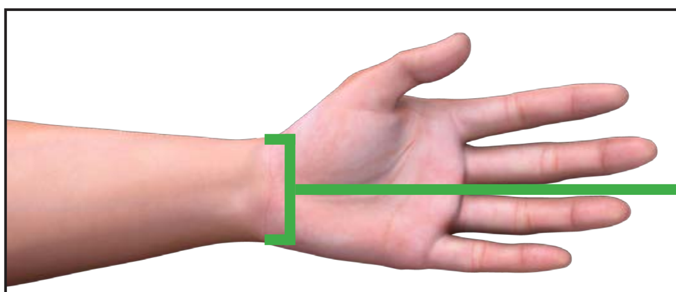


The joint line of the knee/Mid-Patella

Tibial tuberosity



Lateral and medial malleolus



The most distal wrist crease

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Positioning

Two things to consider when observing the movements of the screen are distance and movement. Considering these two things will take care of most of the issues involved in trying to see everything during the screen.

Distance

Step back from the client to create enough distance, allowing you to see the whole picture at once. Most of the confusion over where to stand comes from being too close and too focused on one area of the test. Stand far enough away to allow a more global focus. View the entire movement and let the test criteria become evident.

Movement

The client has three attempts to perform each test, so don't be afraid to move around during the test. Depending on the test, standing to the side or facing the person may provide the best vantage point. Take advantage of all three trials and move around if the score is not obvious from one point of view.

FMS Order:

The recommended order for screening takes the client from standing positions to ground-based positions which is a physically efficient and time efficient process for the client while transitioning from one test to another. Although this is the recommended order of tests, during groups screens there may be multiple testing stations. The order the clients move through stations can start and end in any sequence and will not negatively affect the scoring results.

1. Deep Squat
2. Hurdle Step
3. Inline Lunge
4. Shoulder Mobility
5. Active Straight-Leg Raise
6. Trunk Stability Push-Up
7. Rotary Stability

Footwear:

We recommend that the client wear the shoes that they train in the most. The goal is to produce consistent and reliable screening conditions from the first screen to any rescreening conditions. In a majority of cases, our clients live and function in shoes and this is the most reliable way to look at an individual's movement that they experience in their current lifestyle.

Warm-up:

The FMS screen is performed with no prior warm-up, stretching or movement preparation. It is important to know what a persons natural state of movement is when they walk through the door. This is the best indication of the quality and level of movement competency they experience in their current daily activity.

Verbal Instructions:

This manual provides you with specific verbal instructions that should be stated to the client as specifically and consistently as possible. The verbal instructions are designed to guide the client you are screening into the proper set up position and instructs them how to execute the movement. These instructions are designed to give them just enough information to clearly understand how to perform the test without adding coaching or feedback that would alter their natural movement pattern. This will ensure that you don't miss anything in the set up as the screener and to also create consistency for each screen that you administer. As a new screener it is suggested that you consistently use the Verbal Instructions for the first 50 screens you perform! This ensures that you systematically administer the screen for consistent results and integrating FMS into your environment.

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Deep Squat Movement Pattern

WHY THE SYMMETRICAL STANCE PATTERN?

The ability to squat is a fundamental movement ability. It appears early in the developmental sequence and is both a posture and a pattern. With the squat, we lower/control our center of mass from a symmetrical stance. It can also be a position of rest.

The exercise world has taught us a type of squat that is really an abnormal or unusual way to squat. This type of squat is designed to protect our spine in order to overload the body with unusually heavy loads or volume to manipulate our environment for specific training goals. This is not a fundamental, everyday squat, but we have adapted it for specific training purposes. This is not the squat that you would see if you were with friends around the campfire. So, let's remove our squatting exercise hat and put on our human movement squatting hat for the moment.

In sports squatting allows us to load the lower body to produce force quickly and explosively and to absorb force during landing. A vertical leap, for example, as used in volleyball, basketball and many other sports and activities is an example of the squat pattern in action. Dropping center of mass to resist an opponent trying to push you out of position is an example of the force absorbing use of the squat pattern.

Some work environments require employees to perform skilled or manual tasks, including positions that require raising and lowering of our center of mass using the squat pattern. When building a home, workers get up and down to lay the foundation, lay the tiles, and put in the cabinets with detailed final touches. For firefighters, it is the ability to lift and get low in a fire that could be life-saving strategies. Healthy squatting is needed to keep important laborers like this functioning well on the job.

When someone cannot perform the squatting pattern it is imperative to look into their lifestyle and/or activity to determine what could be causing the poor pattern. Are there things too harsh in their environment? Like squatting with poor form and heavy weight or jumping with bad mechanics repeatedly. Or are there things too soft in their environment? Like never using the squat and always sitting at a comfortable height that never puts them in a deeper position.

WHY THE DEEP SQUAT SCREEN?

We choose to screen the symmetrical stance pattern using the Deep Squat. This screen shows whether the person can move symmetrically into a full range of motion of the ankles, knees and hips. Maintaining the overhead position of the arms tells us if the individual can fully access lower body mobility without robbing movement from the torso and upper extremities.

The DS places you in a consistently repeatable position that demands a high level of mobility and control. The feet straight ahead and the dowel overhead places the individual at the extremes of lower body motion against the positioning of the upper extremities. This makes the compensations easy to see.

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Deep Squat

DESCRIPTION

The client assumes the starting position by placing the inside edge of the foot in vertical alignment with the crease of the armpit to establish the shoulder-width stance. The feet should be in the sagittal plane with no lateral outturn of the toes. The client rests the dowel on top of the head to adjust the hand position, resulting in the elbows at a 90-degree angle. Do not manually manipulate set up positions, but absolutely spot for safety and be aware of possible balance issues that could put the person being screened at risk.

Next, the client presses the dowel overhead with the shoulders flexed and abducted and the elbows fully extended. Instruct the client to descend slowly into the deepest possible squat position with the heels on the floor, head and chest facing forward and the dowel maximally pressed overhead. The knees should align over the feet with no valgus collapse.

As many as three repetitions may be performed, but if the initial movement falls within the criteria for a score of three, there is no need to perform another test. If any of the criteria for the score of two are not achieved while using the FMS board, the client receives a score of one.

VERBAL INSTRUCTIONS

The following statement begins the screen and applies to all seven tests.

Please let me know if there is any pain during the following movements. And if at any time you do not understand the instructions, stop me for clarification. We are going to perform each movement one at a time and in a smooth and controlled motion. Please wait for me to confirm that you have the proper set up position and then I will signal you to begin the movement.

For consistency throughout all screens, this script should always be used. The bold words below should be repeated to the client.

- **Stand tall with your feet shoulder-width apart and toes pointed forward.**
- **Grasp the dowel in both hands and place it on top of your head so your shoulders and elbows are at 90 degrees.**
- **Press the dowel so that it is directly above your head.**
- **While maintaining an upright torso and keeping your heels and the dowel in position, descend into a squat as deeply as possible.**
- **Hold the bottom position for a count of one, and then return to the starting position.**

Scoring the Deep Squat

3

- Torso is parallel with tibia or toward vertical
- Femur is below horizontal
- Knees do not track inside of feet
- Dowel aligned over feet

2

- Torso is parallel with tibia or toward vertical
- Femur is below horizontal
- Knees do not track inside of feet
- Dowel aligned over feet
- Heels are elevated

1

- Tibia and torso are not parallel
- Femur is not below horizontal
- Knees track inside of feet
- Dowel is not aligned over feet

An individual receives a score of zero if pain is associated with any portion of this test. A medical professional should perform a thorough evaluation of the painful area.

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TIPS FOR TESTING

1. The client can perform the movement up to three times if necessary.
2. If a score of three is not achieved, repeat above instructions using the board under the client's heels.
3. Observe the client from the front and side.
4. All positions, including the foot position, should remain unchanged when the heels are elevated with either the FMS kit or a similar size board.

DEEP SQUAT: UNIT 2 CHAPTER 2

NOTES

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Hurdle Step Movement Pattern

WHY THE DOUBLE TO SINGLE LEG PATTERN?

The double to single leg pattern is fundamental to our ability to walk and is the base of our locomotive mechanics. It is a display of control of our center of mass with a changing base of support. Rolling, crawling and other developmental milestones set the stage for this pattern.

In daily living, the ability to use this double to single leg movement to simply walk up a flight of stairs, step over toys left on the ground, or hike up our favorite mountain trail affects our life choices. Later in life it is critical that aging adults maintain this movement ability for independence and quality of life.

In work tasks, we see people load one side to perform off-center tasks and reach from a narrow base over a single leg. Can you imagine climbing a ladder without the ability to efficiently perform the single leg stance? Fire fighters, painters, and construction workers of all types rely on this ability.

In sports if this pattern is challenged, we lose the ability to have first step quickness needed to beat our opponent on the football field. A pitcher in baseball needs this ability during windup, powerfully transferring force through double leg stance to follow through onto a single leg stance. This transfer from double leg to single leg is required in many sport performance skills.

Whether it's a high-level sprinter in the Olympics, a mother quickly returning upstairs to get a child's backpack, or a recreational golfer stepping uphill on the course, double to single leg mechanics show up in all levels of daily activity and sport. The double leg to single leg movement requires the ability to rely on the stance leg while performing the stepping motion with the opposite leg. When this movement ability is performed poorly we alter our locomotive mechanics and efficiency breaks down.

WHY THE HURDLE STEP SCREEN?

The Hurdle Step Screen (HS) looks at single leg stance challenged by a dynamic stepping motion. The pattern demands a higher step than normal to express mobility and range of motion with the stepping leg and while requiring stability of the stance leg. The step over the string imposes a time demand.

The single leg stance must be maintained while the opposing leg is stepping, which creates a dynamic challenge. The HS uses tibial height as a body relative standard for the stepping motion.

The dowel across the shoulders provides a horizontal reference allowing the screener to easily see the subtle dips and shifts in shoulder position and upper body, indicating a compensation. We are asking for full lower body motion and control without having to "rob" from the upper body position.

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Hurdle Step

DESCRIPTION

To begin the test, use the dowel to measure the height of the tibial tuberosity. Since it can be difficult to find the true joint line between the tibia and the femur, the top center of the tibial tuberosity serves as a reliable landmark.

To adjust the previously described hurdle to the correct height, have the client stand with feet together and use the dowel to measure from the floor to the height of the top and center of the tibial tuberosity. Slide the hurdle's marking cord to the tibial tuberosity height measured, and adjust the other side until the cord is level and displays accurate tibial tuberosity height on both indicators.

Have the client stand directly behind the center of the hurdle base, feet touching at both heels and toes and with the toes aligned and touching the base of the hurdle. Position the dowel across the shoulders, below the neck. Ask the client to step over the hurdle to touch the heel to the floor while maintaining a tall spine, and then return the moving leg to the starting position. The hurdle step is performed slowly and under control. Do not manually manipulate set up positions, but absolutely spot for safety and be aware of possible balance issues that could put the person being screened at risk.

If any of the criteria for a score of three are not achieved, the client receives a score of two. If any of the criteria for the score of two are not achieved, score this a one.

VERBAL INSTRUCTIONS

For consistency throughout all screens, this script should always be used. The bold words below should be repeated to the client.

- **Stand tall with your feet together and toes touching the test kit.**
- **Grasp the dowel in both hands and place it on top of your head so your shoulders and elbows are at 90 degrees. Then while maintaining hand position, lower dowel to the base of the neck and across the shoulders.**
- **While keeping an upright torso, raise the right leg and step over the hurdle, making sure to raise the foot towards the shin and maintain foot alignment vertically with the ankle, knee and hip.**
- **Touch the floor with your heel and return to the starting position while maintaining the same alignment.**

Referencing the right Hurdle Step, repeat on the left by changing the indicated side

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Scoring the Hurdle Step

3

- Hips, knees and ankles remain aligned in the sagittal plane
- Minimal to no movement in lumbar spine
- Dowel and hurdle remain parallel

2

- Alignment is lost between hips, knees and ankles
- Movement in Lumbar Spine
- Dowel and hurdle do not remain parallel

1

- Inability to clear the cord during the hurdle step
- Loss of Balance

An individual receives a score of zero if pain is associated with any portion of this test. A medical professional should perform a thorough evaluation of the painful area.

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TIPS FOR TESTING

1. Ensure the cord is aligned properly.
2. Tell the client to stand as tall as possible at the beginning of the test.
3. Score the moving leg.
4. Repeat the test on both sides.
5. The client can perform the movement up to three times on each side if necessary.
6. Watch for a stable torso.
7. Observe from the front and side.
8. Make sure the toes of the stance leg stay in contact with the hurdle during and after each repetition.
9. If the client physically cannot bring the feet together to touch, ask them to bring their feet together as close as possible with toes touching the test kit, then allow them to perform test from that position.

HURDLE STEP: UNIT 2 CHAPTER 3

NOTES

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Inline Lunge Movement Pattern

WHY THE SPLIT STANCE PATTERN?

The lunge is our ability to lower our center of mass in a stride or asymmetrical foot position that is most used in times of deceleration and direction change. This pattern requires us to lower our center of mass like we do in the squat pattern, but in a more dynamic way. The lunge is a natural extension of developmental patterns and the developmental posture called the half kneel position.

We witness lunging in sport when a sprinting football player needs to quickly decelerate and change direction. The player uses this asymmetrical position to lower their center of mass and control changes in their base of support while in motion. We also see lunging used to lengthen the base of support and create a stronger base along the sagittal plane. The complementary and contrasting upper and lower body movements serve to push the limits of mobility, stability, motor control and dynamic balance. We get a glimpse of this when watching a rugby player sprinting to tackle the opponent.

The half kneeling pattern was a developmental pattern used when transitioning from the ground to standing to explore our environment. In everyday life, we can choose the lunge or half kneeling pattern to lower ourself to pull weeds from our garden or pick up a ball on the golf course. We use the long base of the lunge to brace ourselves in order to push a heavy sofa across the floor or to push a broken-down car off the road. A soldier must maintain a motionless long base when shooting a gun.

Without access to an efficient lunging ability we begin compensating with poor deceleration mechanics. This is one of the known causes of non-contact injuries in many field and court sports. In everyday life lunging and half kneeling are movement strategies for lowering ourselves safely to the ground as well as getting up from the ground. It is obvious that the inability to lunge could impact us in different stages of life and truly affect our quality of life.

WHY THE IN-LINE LUNGE SCREEN?

The Inline Lunge Screen (IL) places the lower extremities in an inline split-stance position while the upper extremities are in an opposite or complementary reciprocal pattern. This replicates the natural counterbalance the upper and lower extremities use to complement each other, as it uniquely demands spine stabilization. This test also challenges hip, knee, ankle and foot mobility and stability, while at the same time simultaneously challenging flexibility of multi-articular muscles such as the latissimus dorsi and the rectus femoris.

A true lunge requires a step and descent. The inline lunge test only provides observation of the descent and return; the step would present too many variables and inconsistencies for a simple movement screen. The split-stance narrow base and opposite shoulder position provide enough opportunity to uncover mobility and stability compensations within the lunging pattern.

We do not exercise in a position this extreme, but in the screen we are only asking for an In-line Lunge (IL) using body weight.

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Inline lunge

DESCRIPTION

Attain the client's tibia length by either measuring it from the floor to the top center of the tibial tuberosity, or acquiring it from the height of the cord during the hurdle step test. Tell the client to place the toe of the back foot at the start line on the kit. Using the tibia measurement, have the client put the heel of the front foot at the appropriate mark on the kit. In most cases, it's easier to establish proper foot position before introducing the dowel.

Place the dowel behind the back, touching the head, thoracic spine and sacrum. The client's hand opposite the front foot should be the hand grasping the dowel at the cervical spine. The other hand grasps the dowel at the lumbar spine. The dowel must maintain it's vertical position throughout both the downward and upward movements of the lunge test. Do not manually manipulate set up positions, but absolutely spot for safety and be aware of possible balance issues that could put the person being screened at risk.

To perform the inline lunge pattern, the client lowers the back knee to touch the board behind the heel of the front foot and returns to the starting position. The knee must touch down on either the test kit or the ground and then return to standing position on the test kit to complete the movement.

If any of the criteria for a score of three are not achieved, the client receives a score of two. If any criteria for the score of two are not achieved, the client receives a score of one.

VERBAL INSTRUCTIONS

For consistency throughout all screens, this script should always be used. The bold words below should be repeated to the client.

- **Step onto the center of the board with the left foot and your toe on the zero mark.**
- **The right heel should be placed according to your tibial measurement at "__".**
- **Both toes must be pointing forward with the entire foot in contact with the board.**
- **Place the dowel along the spine so it touches the back of your head, your upper back and your tailbone.**
- **While grasping the dowel, your left hand should be in the curve of your neck, and the right hand should be in the curve of your lower back.**
- **Maintaining an upright posture so the dowel stays vertical and you maintain the three points of contact, descend into a lunge position so your left knee touches the center of the board.**
- **Then, return to the starting position.**

Referencing the right Inline Lunge, repeat on the left by changing the indicated side

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Scoring the Inline Lunge

3

- Dowel contact maintained
- Dowel remains vertical
- Minimal to no torso movement
- Dowel and feet remain in sagittal plane
- Knee touches the center of the board
- Front foot remains in start position

2

- Dowel contact not maintained
- Dowel does not remain vertical
- Movement in torso
- Dowel and feet do not remain in sagittal plane
- Knee does not touch center of the board
- Flat front foot does not remain in start position

1

- Loss of balance by stepping off the board
- Inability to complete movement pattern
- Inability to get into set up position

An individual receives a score of zero if pain is associated with any portion of this test. A medical professional should perform a thorough evaluation of the painful area.

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TIPS FOR TESTING

1. The front leg identifies the side you are scoring.
2. The dowel remains vertical and in contact with the head, upper back and tail bone during movement.
3. The front heel remains in contact with the board, and the back heel touches the board when returning to the starting position. Watch for loss of balance. For inline lunge, a loss of balance is stepping off the board.
4. Remain close to the client to prevent a complete loss of balance.
5. It's important to remember that if the person does not at least make contact with the board or ground with the knee somewhere, it is the inability to complete the movement pattern, this is a score of one.
6. Repeat the test on both sides.

The client can perform the movement up to three times on each side if necessary.

INLINE LUNGE: UNIT 2 CHAPTER 4

NOTES

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Shoulder Mobility Movement Pattern

WHY THE RECIPROCAL UPPER BODY PATTERN?

Upper limb movements are integral to the developmental sequence in early rolling and crawling. As we develop into adults, upper body mobility and control are fundamental to many movements. The reciprocal movement of the upper extremities is part of gait and locomotion, as well as many movements/activities.

In sports the upper body reciprocal pattern is fundamental to a number of throwing, striking and swinging movements. The opposing action of the arms in the tennis serve, javelin throw, or baseball pitch allow for accurate and powerful movements. Walking and running are also reliant on the reciprocal pattern and even jumping is influenced by the coordinated use of the upper limbs.

In daily life our ability to carry, push, pull, reach overhead, and even walk is influenced by the upper body reciprocal pattern and upper limb mobility and control. Reach for something high up in your cabinet, put on your shirt or carry the trash outside and throw it in the garbage can. You'll find your upper body will be quite active in all these activities.

Work environments can also demand coordinated and extended use of the reciprocal upper body pattern. Painting overhead, working on a car, and any number of repetitive motion tasks require mobility, control and endurance from the upper limbs.

WHY THE SHOULDER MOBILITY SCREEN?

We screen the Reciprocal Upper Body pattern with the Shoulder Mobility screen. The hand length sets a body relative standard for the individual while performing the SM screen. A full reciprocal reaching motion is performed to see if moving both arms at once compromises the movement on either side.

Based on the motion standards of the Apply's Scratch Test, the SM screen looks at coordination of the thoracic spine, scapula, and control of the shoulder and upper limbs.

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Shoulder Mobility

DESCRIPTION

First, measure the client's right hand from the distal crease to the longest digit to determine the hand length. The client will stand with the feet together and make a fist with each hand, thumbs inside the fingers. The client then simultaneously reaches one fist behind the neck and the other behind the back, assuming a maximally adducted, extended and internally rotated position with one shoulder and a maximally abducted and externally rotated position with the other.

During the test, the hands should move in one smooth motion and should remain fisted. Measure the distance between the two closest points of the hands to determine the client's symmetrical reach. If there is loss of cervical spine position, Repeat the verbal instruction to "Stand tall…".

Have the client perform the shoulder mobility test a maximum of three times bilaterally. If any of the criteria for a score of three are not achieved, the client receives a score of two. If any of the criteria for the score of two are not achieved, score this a one.

SHOULDER CLEARING TEST

There is a clearing exam at the end of the shoulder mobility test. You do not score this, but instead watch for a pain response. If pain is produced, a positive (+) is recorded on the score sheet, and a score of zero is given to the entire shoulder mobility test.
The client places a palm on the opposite shoulder and lifts the elbow as high as possible while maintaining the palm-to-shoulder contact. This clearing exam is necessary because shoulder impingement will sometimes go undetected by shoulder mobility testing alone.

SM VERBAL INSTRUCTIONS

For consistency throughout all screens, this script should always be used. The bold words below should be repeated to the client.

- **Stand tall with your feet together and arms hanging comfortably.**
- **Make a fist so your fingers are around your thumbs.**
- **In one motion, reach the right fist over the head and down your back as far as possible while simultaneously reaching your left fist up your back as far as possible.**
- **Do not "creep" your hands closer after the initial placement.**

Equipment needed: measuring device

SHOULDER CLEARING TEST VERBAL INSTRUCTIONS

- **Stand tall with your feet together and arms hanging comfortably.**
- **Place your right palm on the front of your left shoulder.**
- **While maintaining palm placement, raise your right elbow as high as possible.**
- **Do you feel any pain?**

Referencing right Shoulder Mobility, repeat on the left by changing the indicated side

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Scoring the Shoulder Mobility

3

- Fists are within one hand length

2

- Fists are within one and a half hand lengths

1

- Fists are not within one and a half hand lengths

An individual receives a score of zero if pain is associated with any portion of this test.
A medical professional should perform a thorough evaluation of the painful area.

CLEARING TEST

Perform this clearing test bilaterally. If the individual receives a positive score, document both scores for future reference. If there is pain associated with this movement, give a score of zero and perform a thorough evaluation of the shoulder or refer out.

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Tips For Testing

1. The top shoulder identifies the side being scored.
2. If the hand measurement is the same as the distance between two points, score low.
3. Make sure the client does not try to walk the hands toward each other following the initial placement.
4. Repeat the test and clearing exam on both sides.
5. The client can perform the movement up to three times on each side if necessary.

SHOULDER MOBILITY: UNIT 2 CHAPTER 6

NOTES

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Active Straight-Leg Raise Movement Pattern

WHY THE RECIPROCAL LOWER BODY PATTERN?

When we learn to crawl, walk and run in our developmental sequence we naturally use the lower limbs in a reciprocal way. This is part of our contralateral movement and counterbalances the upper body movements. The reciprocal lower body pattern is the foundation of our locomotive patterns and is used in many everyday activities as we walk to the car, go for a hike on a nature trail, and climb stairs. Half kneeling and lunging also depend on the reciprocal lower body pattern as well.

This pattern is also expressed in the hip hinge. The control of your center of mass and weight shifting through the hips while protecting the spine is a critical component of many daily, work, and sport movements. Such as, when bending over to pick something up, deadlifting to lift a heavy object, or sitting back into your hip on one side to stop and change direction on the field.

You can imagine that if you are limited in this pattern that acceleration, deceleration and change of direction will be significantly affected. This can impact a multitude of sport and recreational activities. Dysfunction in the pattern could have a cascade of movements, postures and positions.

WHY THE ACTIVE STRAIGHT-LEG RAISE SCREEN?

The reciprocal lower body pattern is screened using the Active Straight Leg Raise screen (ASLR). Lumbo-pelvic control, extension of the down leg and flexion of the raising leg are the component pieces of this pattern. The set-up position has the arms to the side with palms up so the upper body cannot contribute to stability by pressing into the ground.

The ASLR is often misunderstood as a hamstring test but it requires us to perform extension on the down leg while at the same time performing flexion of the raising leg. This requires appropriate stabilization of the pelvis and lumbar spine before and during the execution of the movement. Don't forget that you are grading a pattern involving two legs and a degree of core control. The ASLR is another screen that uses body relative measurements of the individual's mid-thigh and mid-patella for the scoring criteria.

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Active Straight-Leg Raise

DESCRIPTION

The client lies supine with the arms by the sides, palms up and head flat on the floor. A board is placed under the knees; this can be either the FMS kit board or a board of similar dimensions as described earlier. Both feet should be in a neutral position, the soles of the feet perpendicular to the floor. Ask the client to bring the feet together while maintaining the soles of the feet perpendicular to the floor. If they are unable to touch the inside edges of the feet together, ask them to bring them as close together as possible and allow them to start from that position.

Find the point between the anterior superior iliac spine (ASIS) and the mid-patella then place a dowel at this position, perpendicular to the ground. Next, the client lifts the test limb while maintaining the original starting position of the ankle and knee.

During the test, the opposite knee should remain in contact with the board; the toes should remain pointed upward in the neutral limb position, and the head remains flat on the floor.

Once reaching the end range, note the position of the upward ankle relative to the non-moving limb. If the malleolus passes the dowel, record a score of three.

Perform the active straight-leg mobility test a maximum of three times bilaterally. If any of the criteria for a score of three are not achieved, the client receives a score of two. If any of the criteria for the score of two are not achieved, score this a one.

VERBAL INSTRUCTIONS

For consistency throughout all screens, this script should always be used. The bold words below should be repeated to the client.

- **Lie flat with the back of your knees against the board, feet together with toes pointing up.**
- **Place both arms next to your body with the palms facing up.**
- **With the left leg remaining straight and the back of the opposite knee maintaining contact with the board, raise your right leg as high as possible.**

Referrencing right Active Straight-Leg Raise, repeat on the left by changing the indicated side.

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Scoring the Active-Straight Leg Raise

3

- Vertical line of the malleolus resides between mid-thigh and ASIS
- The non-moving limb remains in neutral position

2

- Vertical line of the malleolus resides between mid-thigh and joint line
- The non-moving limb remains in neutral position

1

- Vertical line of the malleolus resides below the joint line
- The non-moving limb remains in neutral position

An individual receives a score of zero if pain is associated with any portion of this test.
A medical professional should perform a thorough evaluation of the painful area.

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TIPS FOR TESTING

1. The moving limb identifies the side being scored.
2. Make sure the non-moving limb maintains a neutral position.
3. Repeat the test on both sides.
4. The client can perform the movement up to three times on each side if necessary.
5. Only move stick if a definitive vertical reference is needed at the border of 1 or 2 at mid-joint line.
6. Ask them to bring their feet together as close as possible. Then perform the test from that position. Soles of feet still need to be perpendicular to the ground.

ACTIVE STRAIGHT-LEG RAISE: UNIT 2 CHAPTER 7

NOTES

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Trunk Stability Push-Up Movement Pattern

WHY THE REACTIVE SAGITTAL PLANE PATTERN?

In the developmental sequence planking and sitting upright begin to establish the reactive sagittal plane pattern. This strong connection between our upper and lower body allows us to support many important activities. As we push a lawn mower in the yard or lift something heavy overhead, we use this pattern to resist the forces that would take our trunk out of alignment.

Reactive sagittal plane stability is fundamental to many sport activities such as running and jumping by resisting extension and transferring forces from the lower body to the upper body. This strong connection between the upper and lower body also allows us to perform movements in the gym like pushing a sled, the kettlebell swing, cleans or snatches.

Individuals who work in warehouses and distribution centers press objects overhead at work and push heavy objects around all day. The FedEx employee delivering packages to your door performs these types of tasks daily. They need to be able to resist extension forces to remain productive and healthy in the workplace.

WHY THE TRUNK STABILITY PUSH-UP SCREEN?

The reactive sagittal plane pattern is screened using the Trunk Stability Push-up (TSPU). The TSPU screen has you start in an extended push-up position on the ground then asks you to press up while maintaining the trunk position to resist extension forces. This start position of the TSPU creates a reflexive challenge to the pattern. The gender-based hand position accounts for the difference in upper body mass and strength.

TSPU is not meant to test upper body strength in isolation. The goal is to use the upper body movement in this position to challenge the trunk stability pattern.

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Trunk Stability Push-Up

DESCRIPTION

The client assumes a prone position with the arms extended overhead. They then slide the hands down at shoulder-width apart until they reach the start position. During the test, men and women have different starting positions. Men begin with their thumbs at the top of the forehead, while women begin with their thumbs at chin level. The thumbs are then lowered to the chin or shoulder level, per the scoring criteria. The knees are fully extended, the ankles are neutral and the soles of the feet are perpendicular to the floor.

Ask the client to perform one push-up in this position. The body should be lifted as a unit; there should be no sway in the spine during the test. If the client cannot perform a push-up in the initial position, the hands are lowered to the second designated start position being the chin for males and the clavicle for females.

Perform the trunk stability push-up test a maximum of three times. If any of the criteria for a score of three are not achieved, move the hands to the appropriate position so the individual can test for a 2. If any of the scoring criteria for a score of two are not achieved, the individual receives a score of 1.

EXTENSION CLEARING TEST

There is a clearing exam at the end of the trunk stability push-up test. This press upmovement is not scored; it is performed to observe a pain response. If pain is produced, a positive (+) is recorded and a score of zero is given to the entire push-up test. We clear extension with a press up from the push-up position. If the client receives a positive score, document both scores for future reference.

TSPU VERBAL INSTRUCTIONS

For consistency throughout all screens, this script should always be used. The bold words below should be repeated to the client.

- **Lie face down with arms extended overhead at shoulder-width apart.**
- **Pull your thumbs down in line with your (forehead for men, chin for women).**
- **With your legs together, pull your toes toward the shins.**
- **Extend your knees and then lift your elbows slightly off the ground.**
- **While maintaining a rigid torso, push your body as one unit into a push-up position.**

Referencing hand position for Score of 3, if needed repeat with hand position for score of 2 that is chin for men, clavicle for women

EXTENSION CLEARING VERBAL INSTRUCTIONS

- **While lying on your stomach, place your hands, palms down, under your shoulders.**
- **With no lower body movement, press your upper body off the ground until your elbows are straight.**
- **Do you feel pain?**

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Scoring the Trunk Stability Push-Up

3

- Men perform a repetition with thumbs aligned with the top of the forehead
- Women perform a repetition with thumbs aligned with the chin
- The body lifts as a unit with no lag in the spine

2

- Men perform a repetition with thumbs aligned with the chin
- Women perform a repetition with thumbs aligned with the clavicle
- The body lifts as a unit with no lag in the spine

1

- Men are unable to perform a repetition with thumbs aligned with the chin
- Women are unable to perform a repetition with thumbs aligned with the clavicle

An individual receives a score of zero if pain is associated with any portion of this test. A medical professional should perform a thorough evaluation of the painful area.

EXTENSION CLEARING TEST

Extension is cleared by performing a press-up in from the floor with hands under the shoulders. If there is pain associated with this motion, give a positive (+) score with a final score of zero and perform a more thorough evaluation or refer out. If the individual does receive a positive score, document both scores for future reference.

FMS Copyright 2015 Functional Movement Systems and Gray Cook

TIPS FOR TESTING

1. The client should lift the body as a unit.
2. To identify "shoulder-width apart" for hand position, align the web of the thumb with the crease of the armpit. This will place the hands at the individuals "should-width" position.
3. Be sure that the client starts with arms overhead and then drags the hands down at shoulder-width apart to the start position. It may be necessary to give them a tactile cue to adjust their hand to the correct position.
4. On each attempt, make sure the client maintains the hand position and the hands do not slide down as the client prepares to push.
5. Make sure the chest and stomach come off the floor simultaneously.
6. The client can perform the movement up to three times if necessary.
7. Repeat the instruction with appropriate hand placement if necessary.

TRUNK STABILITY PUSH-UP: UNIT 2 CHAPTER 8

NOTES

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Rotary Stability Movement Pattern

WHY THE REACTIVE TRI-PLANAR PATTERN?

The reactive tri-planar pattern is something we experience when we resist rotation to maintain a position when there is a push or a pull on one side of the body. RS is expressed when we create or resist rotation to crawl, climb, run, swing and throw. In our developmental stages we use the cross connection of opposite arm to opposite leg to crawl. As kids, we learn to climb, run, and bound by expressing this ability.

When heading to the airport, we may need to toss a heavy bag into the car. Many of us naturally will load into a bit of rotation then uncoil to toss it in. This coiling affect is the natural extension of the crossing diagonal pattern that we see in something as simple as walking. If we take a step forward with one leg the opposite arm should swing backwards. We also depend on the ability to resist rotation when we pick up an object on one side of the body and brace ourselves with the opposite side.

Many sport and recreational movements are heavily dependent on this reactive tri-planar pattern. Whether throwing a punch or a baseball, we need the ability to coil and uncoil the torso to transfer forces to our extremities. We also see this when resisting an opponent in soccer who is trying to push you out of position to get to the ball. Activities like paddling use rotation to perform each stroke.

Resisting rotation is seen on the job when a firefighter drags the firehose over one shoulder to move it closer to the fire. Police officers and soldiers must maintain RS in order to set a steady, precise position to aim a firearm and handle the force when taking a shot.

WHY THE ROTARY STABILITY SCREEN?

The reactive tri-planar pattern is screened with the Rotary Stability screen. This screen is not designed to replicate crawling, even though crawling may be very restorative and corrective for this pattern. It is better to consider this a perturbation challenge. Perturbation literally means an agitation or a loss of balance. The change in base of support when you lift an arm and a leg forces the need for a shift and disturbance to your stability that requires the body to react quickly and communicate using the deeper core musculature to maintain the position.

Not many people practice the unilateral movement seen in this screen and there is an obvious inability to do it when someone fails this motor control challenge. Many individuals focus on fact that they cannot perform the unilateral challenge rather than the fact that they show a fundamental level motor control by successfully completing the diagonal challenge in this screen. An opportunity presents itself when people cannot perform the diagonal pattern due to the lack of mobility that prevents them from accessing it.

TSPU looks at motor control to see if you sacrifice stability to complete a task. RS looks at a feedback motor control on the left and right side with a perturbation.

FMS Copyright 2015 Functional Movement Systems and Gray Cook

Rotary Stability

DESCRIPTION

The client gets into the quadruped position with a board, either the FMS kit board or one of similar size, on the floor between the hand and knees. The board should be parallel to the spine, and the shoulders and hips should be 90 degrees relative to the torso, with the ankles neutral and soles of the feet perpendicular to the floor.

Before the movement begins, the hands should be open, with the thumbs, knees and feet all touching the board. The client should flex the shoulder while extending the same-side hip and knee so that it creates a straight line, and then bring elbow to the knee while remaining in line over the board. Spine flexion is allowed as the client brings the knee and elbow together. Do not manually manipulate set up positions, but absolutely spot for safety and be aware of possible balance issues that could put the person being screened at risk.

This is performed bilaterally for a maximum of three attempts if needed. If one repetition is completed successfully, there is no reason to perform the test again.

If a score of three is not attained, have the person perform a diagonal pattern using the opposite shoulder and hip in the same manner described above. During this diagonal variation, the arm and leg need not be aligned over the board; however, the elbow and knee do need to touch over it.

FLEXION CLEARING TEST

A clearing exam is performed at the end of the rotary stability test. This movement is not scored; it is performed to observe a pain response. If pain is produced, a positive (+) is recorded on the sheet and a score of zero is given to the entire rotary stability test. We clear flexion from the quadruped position, then rocking back and touching the buttocks to the heels and the chest to the thighs. The hands remain in front of the body, reaching out as far as possible. If there is pain associated with this motion, give a zero score. If the client receives a positive score, document both scores for future reference.

RS VERBAL INSTRUCTIONS

For consistency throughout all screens, this script should always be used. The bold words below should be repeated to the client.

- **Get on your hands and knees over the board so your hands are under your shoulders and your knees are under your hips.**
- **The thumbs, knees and toes must contact the sides of the board, and the toes must be pulled toward the shins.**
- **Simultaneously shift and lift your right hand forward and your right leg backward at the same time, like you are flying and forming a straight line.**
- **Then without touching down, touch your right elbow to your right knee directly over the board.**
- **Re-extend the arm and leg over the board.**
- **Then, return to the start position.**

If client is unable to perform a unilateral repetition, instruct the client to repeat with a diagonal pattern.

- **Simultaneously lift your right hand forward and the left leg backward at the same time**
- **Then without touching down, touch your right elbow to your left knee directly over the board.**
- **Re-extend your arm and leg, then return to start position**

Referencing right Rotary Stability, repeat on the left by changing the indicated side

FLEXION CLEARING VERBAL INSTRUCTIONS

- **Get into the same start position with feet pointed backwards, and rock your hips toward your heels.**
- **Lower your chest to your knees, and reach your hands in front of your body as far as possible.**
- **Do you feel any pain?**

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Scoring the Rotary Stability

3

- Performs a correct unilateral repetition
- Unilateral limbs remain over the board
- Without touching down, touch the same-side elbow to the same-side knee over the board

2

- Performs a correct diagonal repetition
- The diagonal knee and elbow meet over the board
- Without touching down, touch the opposite elbow and knee over the board

1

- Inability to perform a diagonal repetition

An individual receives a score of zero if pain is associated with any portion of this test. A medical professional should perform a thorough evaluation of the painful area.

FLEXION CLEARING TEST

Flexion can be cleared by first assuming a quadruped position, then rocking back and touching the buttocks to the heels and chest to the thighs, The hands should remain in the front of the body, reaching out as far as possible. If there is pain associated with this motion, give a positive (+) score with a final score of zero and perform a more thorough evaluation or refer out. If the individual receives a positive score, document both scores for future reference.

FMS
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TIPS FOR TESTING

1. Have the client perform a unilateral attempt on one side and if they are not able to meet the criteria for Score of 3, then ask them to attempt the diagonal pattern for the score of 2 on the same side before moving on to the opposite side.
2. The upper moving limb indicates the side being tested.
3. Make sure the unilateral limbs remain over the board to achieve a score of three.
4. The diagonal knee and elbow must meet over the board to achieve a score of two.
5. Make sure the hips and shoulders are at right angles at the start.
6. Repeat the test on both sides.

ROTARY STABILITY: UNIT 2 CHAPTER 9

NOTES

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Documenting FMS Scores

We have provided you with a very basic scoring sheet format. This is just an example, the important aspect when documenting the scores is to be consistent and follow the rules of the scoring criteria. Over the years we have seen many different versions of score sheets. You may choose to add verbal instructions, scoring criteria or even more detailed instructions based on your setting. Feel free to alter the scoring document to fit your needs, just remember when it comes to documenting your scores follow the rules.

The score sheet we provide was designed to be simple and not create a lot of confusion when documenting your scores. Remember the FMS is designed to be a quick and simple test where we do not want to create opportunities to overanalyze the specific tests. When documenting the scores we want to keep this same philosophy, mark the score and move on. Feel free to add bullets for instruction or scoring criteria if needed and leave an area to make notes for some of your observations.

The FMS scoring sheet provides you with a Raw Score, Final Score and a Total Score, all of these scores are important when determining your intervention strategies. These scores will be utilized differently depending on your setting, whether you are a fitness professional working one-on-one or you are a strength and conditioning coach at a high school working with a couple of hundred athletes. If you are working one-on-one you may be using the Raw Score to determine your priorities for corrective exercises. In a situation where you have large groups the Final Score may be more important initially in determining next steps for the entire group. The Total Score may be important when comparing to other groups or other individuals.

When referring to some of the current and future research the Final and Total Scores are often used to determine cut-off for injury risk and general trends in different populations. However, this doesn't discount the importance of the Raw Score, this score gives you the best profile of how the individual is moving. As you become proficient in the FMS system you will find yourself using all the scores to your benefit.

The Raw Score represents the right and left side results of the five tests that allow for bilateral comparison. The Final Score is simply the lower of the two Raw Scores. The two tests that do not have a right and left scores, there is only one score recorded. The Total Score is simply the sum of the Final Scores. This format is certainly easy to follow (example 1).

It is very clear in the scoring criteria that when pain is noted a 0 is given and a more detailed evaluation from a medical professional is recommended. Now without getting into the debate on what is and isn't pain, I want to discuss simply how you should document the 0 score. You should consider two options depending on your professional background and setting. The first and maybe more appropriate way to document the 0 score would be to give the individual a Raw and Final score of 0, stop the test and refer. The second option will give you and the healthcare professional more specific information when performing the evaluation. That is, if a person exhibits pain during a test you could continue on with the rest of the FMS and only document the 0 score in the Final Score section for that test. For example, a person could get a 3 on the Deep Squat test but have pain in the knee; the Raw Score would be 3 and the Final Score a 0. If you use this option you will now have more information to utilize when referring or performing a more detailed evaluation (example 2).

There are three screens that use Clearing Tests, which are not scored since they are only used to determine if pain is provoked. These tests are documented as a "Positive" for pain or a "Negative" for no pain. The clearing tests do influence the Final Score but not the Raw Score. The results of the clearing tests will make the Final Score a 0 if pain is provoked. Many times we get the question as to why we would even need to document a Raw Score if the Clearing Tests override it. The answer is quite simple; if pain is provoked we want to gather as much information on that person as necessary prior to the more detailed evaluation being performed. For example during the Shoulder Mobility Screen you have two individuals, the first individual gets a 3 on the Right and 3 on the Left, the second individual gets a 2 on the Right and 1 on the Left and they both get a Positive on the Clearing Test. The final score for both of these individuals is 0 but they have completely different movement patterns, which for the second individual may be the cause of pain. By having the Raw Score we can now direct the focus of the evaluation and intervention strategies (example 3).

Hopefully these few tips will allow you to understand the overall scoring system as well as use the results more effectively. The FMS was designed to be a simple grading system, however the more proficient you become at using the FMS and its results, the more effectively you will be able to apply corrective strategies.

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FUNCTIONAL MOVEMENT SCREEN SCORE SHEET

NAME: ____ DATE: ____ DOB: ____

ADDRESS: ____

CITY, STATE, ZIP: ____ PHONE: ____

SCHOOL/AFFILIATION: ____

HEIGHT: ____ WEIGHT: ____ AGE: ____ GENDER: ____

PRIMARY SPORT: ____ PRIMARY POSITION: ____

HAND/LEG DOMINANCE: ____ PREVIOUS TEST SCORE: ____

	TEST		RAW SCORE	FINAL SCORE	COMMENTS
	DEEP SQUAT		2	2	
EXAMPLE 1	HURDLE STEP	R	1	1	
		L	2		
	INLINE LUNGE	R	2	2	
		L	2		
EXAMPLE 3	SHOULDER MOBILITY	R	3	0	
		L	3		
	SHOULDER CLEARING TEST	R +/-	-		
		L +/-	+		
	ACTIVE STRAIGHT-LEG RAISE	R	2	2	
		L	2		
EXAMPLE 2	TRUNK STABILITY PUSHUP		3	0	Pain in right shoulder
	EXTENSION CLEARING TEST	+/-	-		
	ROTARY STABILITY	R	2	2	
		L	2		
	FLEXION CLEARING TEST	+/-	-		
	TOTAL SCREEN SCORE				

Raw Score: This score is used to denote right and left side scoring. The right and left sides are scored in five of the seven tests and both are documented in this space.

Final Score: This score is used to denote the overall score for the test. The lowest score for the raw score (each side) is carried over to give a final score for the test. A person who scores a three on the right and a two on the left would receive a final score of two. The final score is then summarized and used as a total score.

Clearing Test: A positive indicates pain. A negative indicates no pain. If pain is present (+),the score for that test would result in a 0.

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Introduction to the Motor Control Screen

Functional Movement Systems has developed the bridge between screening fundamental movement patterns (Functional Movement Screen--FMS) and screening for performance (Fundamental Capacity Screen - FCS). The Motor Control Screen (MCS) is a balance test designed to challenge an individual's single limb competency or quality.

The Motor Control Screen (MCS) determines whether a person has the minimum level of motor control with body weight to allow maximal adaptability for human performance. Through research, the MCS adopts the science and validity of the Y-balance test and the convenience of the FMS to add a layer of accuracy to testing basic motor control.

Additionally, the MCS gives you vital information on how you stabilize, balance and control your movement. This is an important link between the FMS and an individual's fitness/capacity activities. We designed the Motor Control Screen to deliver a tight feedback loop that not only measures dysfunction in the lower and upper body motor control but sets a baseline to measure actionable changes in motor control quickly and reliably.

MCS consists of:

1. Ankle Clearing
2. Lower Body MCS
3. Wrist Extension Clearing
4. Horizontal Clearing
5. Upper Body MCS

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Ankle Clearing

PURPOSE

The purpose of the test is not to remove ankle mobility, but to ensure ankle mobility is not a barrier to movement pattern competency and capacity. Lower body motor control screen cannot be respectively measured when ankle mobility is considered dysfunctional because adequate mobility is a prerequisite for motor control. Failure on the screen implies that ankle mobility should be addressed and cleared before performing the Lower Body Motor Control Screen.

DESCRIPTION

While holding the dowel rod for balance, have the person place their right foot along the left side of the kit, and place the left foot in front of the right foot in the heel-to-toe position. Line up the front edge of the medial malleolus of the front foot behind the 0 line of the Functional Movement Screen Kit with the inside of the left foot touching the kit, adjust kit when necessary.

The back ankle is the one being measured. Have the person drop straight down, bending the knee taking the back knee as far as possible in front of the toes with the heel down. Visualize a vertical line from the forward most part of the bent knee to the floor, determine if the knee crosses the front edge of the medial malleolus. Ask the person if they felt any pain in the ankle, and if so where? (Front of the ankle or back of the lower leg?). If there is pain, refer and **do not** complete the Forward Reach.

If there is a stretch in the front and it doesn't clear with applying soft tissue or stretching applications, then further assessment by a medical professional is needed.

If they do not have pain and do not pass, then proceed and do Forward Reach. However, Ankle is still the priority.

If unsure whether heel stayed down or knee cleared malleolus, repeat up to 3 times.

Then, repeat on the opposite side.

The person should get the knee past the front edge of the medial malleolus.

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Ankle Clearing

VERBAL INSTRUCTIONS

The following is a script to use while administering Ankle Clearing. For consistency throughout all testing, this script should be used during each screen. The bold words represent what you should say to the participant.

- **Please let me know if there is any pain while performing any portion of the screen.**
- **Please lace or strap your shoes snugly because this is a loaded ankle clearing test.**
- **Place the outside of your right foot up next to the FMS test kit so that the outside foot is in contact with the kit.**
- **Place the left foot in front of the right foot so that you are in the heel to toe position with both feet touching each other and the FMS test kit, and use a dowel for balance.**
- **I will adjust the FMS kit so that the red start line lines up with the medial malleolus.**
- **While maintaining the heel-to-toe position drop straight down, bending the back knee and taking it as far as possible in front of your toes while keeping the heel down.**
- **Once you have reached your maximum distance, I will measure and ask you where you felt the stretch (Front, Back of Ankle, or no stretch).**
- **Do you understand the instructions?**

Have the participant perform the ankle clearing screen at least three times for consistent measurement.

TIPS FOR TESTING

- The back foot is the ankle being tested.
- Adjust the FMS kit so that the red start line lines up with the front of the medial malleolus.
- Both feet must remain in the heel-to-toe position throughout the movement.
- If there is pain, refer and **do not** complete the Forward Reach.
- If the client fails the Ankle Clearing by not passing the scoring criteria and there is no pain involved, it is recommended to proceed to the Forward Reach to create a movement baseline. This allows you to compare the movement before and after correctives have been applied and ankle mobility has been cleared.

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Scoring Ankle Clearing

BEHIND

- Individual's knee resides behind the medial malleolus.

WITHIN

- Individual's knee resides within the medial malleolus.

BEYOND

- Individual's knee resides beyond the medial malleolus.

QUESTIONS

- Did you feel any pain? If so where?
- Did you feel a stretch? If so where? (Front, Back of Ankle, or no stretch).

It is possible to fail this screen due to the presence of pain or the lack of range of motion.

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Lower Body MCS

PURPOSE

The vital measurement for crawling and climbing is single-limb competency. In both crawling and climbing, one limb will be responsible, or largely responsible, for advancement. This can be tested through motor control screening.

The Motor Control Screen adopts the science and validity of the Y-balance Test and the convenience of the FMS to add a layer of accuracy to testing basic motor control. The MCS gives you vital information on how you stabilize, balance and control your movement through single-limb competency. This is an important link between the FMS and an individual's fitness/capacity activities.

SPECIFIC SAFETY CONSIDERATIONS

- Can person stand on 1 leg for 10 seconds?
- Can person safely ascend/descend stairs?
- Caution with hip instability, total joint replacement, any lower extremity joint instability.

DESCRIPTION

After you give the testing procedure instructions, start by having the person stand with one foot on the FMS kit, with the most distal aspect of the shoe just behind the red starting line and the inside of the foot aligned on the edge of the stance plate. While maintaining a single-limb stance, have the person reach with the free limb in the forward direction and then return to the starting position. Note that the heel may NOT come up during the test.

Begin the test by providing the testing procedure instructions. Then have the person stand on the FMS kit with the inside of the right foot on the edge of the kit and perform a reach in the forward direction by sliding the slide box with the toes of the free limb. Without touching the free limb to the floor, the person must then return to the starting position. The person must perform a minimum of 3 successful repetitions, continuing until the next reach does not improve the final score. For example, you have 5 repetitions the first is unsuccessful, second 23, third unsuccessful, fourth 27, fifth is 25. The final score would be 27. If the fifth attempt was greater than the fourth, then additional attempts are required until you see a decline.

Once the max distance is achieved, repeat on the opposite side.

The specific screening order is:

1. Right forward reach (three trials minimum)
2. Left forward reach (three trials minimum)

The maximal reach distance is measured by reading the tape measure at the edge of the slide box, at the point where the most distal part of the foot reached in half-inches or centimeters (e.g. 68.5, 69.0, 69.5 cm) depending on your device (Functional Movement Screen Kit or Y-Balance Test Kit).

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Lower Body MCS

VERBAL SAFETY INSTRUCTIONS

The following is a script to use while administering the Lower Body Motor control Screen. For consistency throughout all testing, this script should be used during each screen. The bold words represent what you should say to the participant.

- **Before we start I would like to ask you a few safety questions.**
- **Do you have trouble safely ascend/descend stairs?**
- **Do you have any history of hip instability, had a total joint replacement, or have lower body joint instability?**
- **Place the your right foot on the FMS kit with your toes just behind the starting line.**
- **When ready can you please attempt to balance on 1 leg for 10 seconds.**
- **I'll now check the other leg.**

VERBAL INSTRUCTIONS

The following is a script to use while administering the Lower Body Motor control Screen. For consistency throughout all testing, this script should be used during each screen. The bold words represent what you should say to the participant.

- **Please let me know if there is any pain while performing any portion of the screen.**
- **Please lace or strap your shoes snugly.**
- **Place the inside of your right foot on the FMS kit with your toes just behind the starting line with the inside of your foot lined up next to the edge of the kit.**
- **The starting position for the slide box should be at the front of the stance foot.**
- **While maintaining the foot on the platform, I want to see how well you can maintain balance while pushing the slide box with the opposite foot.**
- **The reach foot must maintain contact with the slide box on the target area while it is in motion (i.e. cannot kick the slide box).**
- **Do not use the slide box for stance support (i.e. place foot on top of slide box).**
- **Return the reach foot to the starting position under control (i.e. return the reach foot to the floor behind the red starting line, next to the stance platform).**
- **Do you understand the instructions?**

TIPS FOR TESTING

- Ensure the heel of the stance leg stays in contact with the board during rep.
- The heel coming up will almost always be the limiting factor
- Maintain contact with the slidebox during reach and don't kick it forward.
- Don't use the slidebox for stance or support
- Return to starting position under control, not allowing foot to touch the ground
- Do not coach the movement; simply repeat the instructions if needed.

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Scoring Lower Body MCS

To be considered functional, we expect less than a 1.5 inch or 4cm right/left asymmetry. (≥1.5 inch or 4cm = Fail)

The person should also be able to reach greater than 2 times foot length and above the environment specific minimum threshold (based on age, gender, sport/activity).

EXAMPLE:

The foot Length for this test is considered 11.5 inches.

- Target = 11.5x2= >23 inches
- Greatest Left= 27 inches - Pass
- Greatest Right= 25 inches - Pass
- Asymmetry = 2 inches - Fail

Starting Foot Position

Reach

Scoring Reach

Foot Measurement

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Upper Body MCS Clearing

WRIST EXTENSION VERBAL INSTRUCTIONS

The following is a script to use while administering Ankle Clearing. For consistency throughout all testing, this script should be used during each screen. The bold words represent what you should say to the participant.

- **Please let me know if there is any pain while performing any portion of the test.**
- **Place the palms of your hands together above your chest and slowly lower your hands keeping your palms together.**
- **Stop the movement as soon as the palms start to separate.**
- **I will then place a dowel parallel to the floor.**
- **Do you understand the instructions?**

HORIZONTAL ADDUCTION CLEARING VERBAL INSTRUCTIONS

The following is a script to use while administering Ankle Clearing. For consistency throughout all testing, this script should be used during each screen. The bold words represent what you should say to the participant.

- **Please let me know if there is any pain while performing any portion of the screen.**
- **Raise your right arm so it is level with your chest.**
- **From there use your left hand to pull your right arm across your chest.**
- **Do you understand the instructions?**

Wrist Extension Clearing

Horizontal Adduction Clearing

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DESCRIPTION

Start by getting into the quadruped position and have the participant place the right thumb parallel with the red 0 line with the little finger in line with the white line on the slide box (slide box starting near support hand). The midline of the body should be in line with the gray section on the top of the slide box. Get into the push-up position with feet shoulder width apart and when ready slide the box with the left hand as far as possible in the horizontal reach. The elbow may bend during this test, but the individual must return without falling. Read the reach distance while the person rests. The person will return to the starting position to perform the next trial. Remember, the test is completed with shoes on.

The person must perform a minimum of 3 successful repetitions, continuing until the next reach does not improve the final score. For example, you have 5 repetitions the first is unsuccessful, second 23, third unsuccessful, fourth 27, fifth is 25. The final score would be 27. If the fifth attempt was greater than the fourth, then additional attempts are required until you see a decline. Once the max distance is achieved you would repeat on the opposite side.

The specific screening order is:

- Right horizontal reach (minimum of three trials)
- Left horizontal reach (minimum of three trials)

Measure the maximal reach distance by reading the measure at the edge of the slide box, at the point where the most distal part of the hand reached in half-centimeters (e.g. 68.5, 69.0, 69.5 cm) or inches depending on your device.

Lastly, with shoes on determine the person's foot length by placing the heel on 0 and measuring the distance from the heel to the most distal part of the shoe. Record the measurement to the nearest half-inch or centimeter depending on the device.

UPPER BODY MCS SPECIFIC SAFETY CONSIDERATIONS

- Is it safe for person to perform push ups?
- Does the person have current/previous shoulder instability or surgical history?
- Scoring a 1 or 0 on the FMS Shoulder Mobility, Trunk Stability Push-Up and Rotary Stability tests.
- Beighton criteria greater than or equal to 5/9.

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Upper Body MCS

VERBAL SAFETY INSTRUCTIONS

The following is a script to use while administering the Lower Body Motor control Screen. For consistency throughout all testing, this script should be used during each screen. The bold words represent what you should say to the participant.

- **Before we start I would like to ask you a few saftey questions.**
- **Do you have any pain or trouble perfroming push-ups?**
- **Do you have current shoulder instability or surgical history that may stop you from performing this test?**

VERBAL INSTRUCTIONS

The following is a script to use while administering the Upper Body Motor Control Screen. For consistency throughout all testing, this script should be used during each screen. The bold words represent what you should say to the participant.

- **Please let me know if there is any pain while performing any portion of the screen.**
- **Please lace or strap your shoes snugly.**
- **Start on your hands and knees and place the right thumb parallel with the start line with the little finger inline with the white line on the slide box.**
- **Line up the mid-line of the body with the gray section of the slide box.**
- **When ready get into the push-up position feet shoulder width apart and while maintaining the right hand on the platform, push the slide box in the red target.**
- **The reach hand must maintain contact with the slide box (i.e. cannot shove the slide box).**
- **Do not use the slide box for stance support (i.e. don’t place hand on top of slide box).**
- **You may bend the elbow, but must return the reach hand to the starting position under control.**
- **You will perform a minimum of 3 successful repetitions, continuing until the next reach does not improve the final score.**
- **Once the max distance is achieved you would repeat on the opposite side.**
- **Do you understand the instructions?**

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TIPS FOR TESTING

- Please lace or strap your shoes snugly.
- The arm that is being measured is the stance arm. This simply represents the pattern and does not imply the functional ability of a body part or side.
- Use the dowel rod as a visual marker to line the mid-line of the body with the gray section of the slide box.
- Performing two practice trials off the kit or on another kit can speed the testing process but is not required.
- Do not coach the movement; simply repeat the instructions if needed.
- Person must maintain unilateral stance on the platform.
- Person must maintain reach hand contact with the slide box on the target area while it is motion (i.e. cannot shove the slide box).
- Person cannot use the slide box for stance support (i.e. place hand on top of slide box).
- Person may bend the elbow.
- Person must return the reach hand to the starting position under control.

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Scoring Upper MCS

Hand Position

Body Position

Reach Start

Reach Distance

Measure Distance

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MOTOR CONTROL SCREEN SCORE SHEET

NAME: DATE: DOB:

ADDRESS:

CITY, STATE, ZIP: PHONE:

SCHOOL/AFFILIATION:

HEIGHT: WEIGHT: AGE: GENDER:

PRIMARY SPORT: PRIMARY POSITION:

HAND/LEG DOMINANCE: HAND LENGTH: FOOT LENGTH: PREVIOUS TEST SCORE:

MOTOR CONTROL SCREEN	RIGHT	LEFT	TARGET	SYMMETRY
Ankle Clearing (Beyond/Within/Behind Malleolus)			Beyond	
Pain				
Where is it felt?				
Forward Reach				
Wrist Extension Clearing -/+				
Horizontal Adduction Clearing -/+				
Horizontal Reach				
FOOT LENGTH				

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Introduction to the Modified FMS

The Functional Movement Screen(FMS) has given us a better perspective on human movement for almost 20 years. We've seen its benefits within all activity levels from the ages 7 to 70 , however, some have been concerned that the FMS may not be appropriate for all populations. The need for a screen that still gives the necessary information, yet is suitable for certain individuals has not been overlooked. We understood the desire for a screen that will give professionals utility and knowledge without overly taxing positions or making a client feel intimidated.

Over the past few years, we've been studying vasts amounts of data from the FMS and Y-Balance Test as well as feedback from many professionals. We have taken all of this information and have developed a Modified FMS. We believe this modified version will still give you a good movement baseline when developing programs for some individuals.

The modified FMS is a special purpose distillation of the FMS and YBT and when used as such can vet mobility and functional motor control. It will give you an option to gauge movement ability in individuals who may warrant a less demanding movement screen. We will always recommend a full FMS, however, we understand this may not always be a practical option for some.

Modified FMS consists of:

1. Deep Squat - Refer to page 9
2. Lower Body MCS - Refer to page 64
3. Shoulder Mobility - Refer to page 22
4. Active Straight-Leg Raise - Refer to page 26

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MODIFIED FUNCTIONAL MOVEMENT SCREEN SCORE SHEET

NAME: ______________________ DATE: ______________ DOB: ______________

ADDRESS: ____

CITY, STATE, ZIP: ______________________ PHONE: ______________

SCHOOL/AFFILIATION: ____

HEIGHT: __________ WEIGHT: __________ AGE: __________ GENDER: __________

PRIMARY SPORT: ______________________ PRIMARY POSITION: ______________________

HAND/LEG DOMINANCE: __________ HAND LENGTH: __________ PREVIOUS TEST SCORE: __________

TEST		RAW SCORE	FINAL SCORE	COMMENTS
DEEP SQUAT				
ANKLE CLEARING TEST	L +/-			
	R +/-			
LOWER BODY MCS	L			Asymmetry:
	R			Foot Length:
SHOULDER MOBILITY	L			
	R			
SHOULDER CLEARING TEST	L +/-			
	R +/-			
ACTIVE STRAIGHT LEG RAISE	L			
	R			
ACTIVE STRAIGHT LEG RAISE CLEARING TEST	L +/-			
	R +/-			

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