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When Competition is your sport

Introduction
The IMG Academies have developed a unique comprehensive athletic training platform that will establish a global measurement standard for improved sports performance, health and fitness called “Combine360.”

By utilizing the performance and training expertise of the IMG Performance Institute, Combine360 will measure and record general and sport-specific ability and mental aptitude, nutritional level, ability to communicate and a variety of other performance disciplines allowing athletes of all abilities from across the world to compare their scores.

This manual addresses the disciplines within the Combine360 into the focal points of testing and documents the rationale, equipment and resources required, protocols and procedures and scoring mechanisms.

The Combine360 is diagramed below, grouping the tests administered into 3 sections each worth 120 points.

ATHLETICISM – tests the common physical measures of athletic performance applicable across sports.

MOVEMENT – tests sports specific physical attributes related to athletic performance along with the quality of athletic movement execution and visual acuity.

CHARACTER – basic assessment through self-report on the nutritional choices an athlete makes as well as their perspective on their mentality and how well they communicate with others.
Overview

The C360 battery was designed to be an experience that captures comprehensive data to evaluate athletic aptitude. This section will highlight the pertinent issues in practically executing the overall process.

Safe and Appropriate

First and foremost the testing battery needs to be safe. All participants need to be aware of what they are participating in and the correct way to perform the different tests. This includes telling all participants up-front in the introduction to report any incidence of pain or discomfort during the testing process. Once the testing process begins each test needs to be properly explained and demonstrated prior to athletes participating in the testing station. No assumptions should be made, all participants need to be privy to the dissemination process and the assessor will check for comprehension to ensure clarity.

If more than one athlete is being tested the assessor needs to manage all participants at all times ensuring that the tests are conducted in a safe environment for both the testing athlete and bystanders. Understanding the parameters of the test will dictate traffic flow and positioning so the appropriate space and supervision is applied at all times. This includes allowing run off space, landing zones, and spotting reps.

The health and safety of the athletes is paramount and is something that can never under any circumstance be compromised. Always remember that it will take precedent in all stages of the testing process.

Scalable

The testing process was designed to be scalable. It is deliverable in most training settings used for athletic performance enhancement or in the setting used to play the sport being tested. The specific test parameters layout the appropriate options for testing surfaces. Some tests also require the assessor to record the surface used during the test.

Equipment

Equipment is an essential part of the measurement process. Both the C360 and the youth C360 have mandatory equipment requirement to perform the testing battery. The necessary equipment for each test is listed at the beginning of each individual testing page in the manual. Having the proper equipment in well maintained working condition is mandatory to ensure the accuracy of the measured results.

Staffing
Staffing the testing process is situationally dependent. One assessor is capable of taking individuals or small groups through the entire process by themselves. When the group size is 5 or more it is recommended that the assessor has an assistant to help with recording the results to keep the test following in a time efficient manner.

Testing Order and Flow
The overall order and flow is consistent across different sports with slight modifications depending on the 3 sport specific tests. The athlete should complete the character portion online prior to doing the athleticism and movement portions. The actual delivery of the athleticism and movement portions are broken out into 3 main sections which need to be completed in a physiologically appropriate order.

The first section includes height, weight, vision tests, and integrative movement tests. To take a weight measurement make sure to have a calibrated scale and have the athlete removes shoes for the weighing. If the assessor has access to a specifically intended device to take a height measurement the height can be captured this way. If not, the recommended procedure for taking a height measurement is to extend a tape measure vertically from the base of a wall to an appropriate height (secure the tape measure so it is orientated perpendicular to the floor). Instruct the athlete to stand with heels together against the wall (without shoes) so that one foot is on each side of the tape measure. Have the athlete stand straight and with a carpenter triangle secure one flat edge on the crown of the head and the other to the tape measure secured to the wall. Have the athlete step away to record the height measurement. The second section includes an active-dynamic warm-up as well as the foundational and sport specific tests that are non-conditioning focused. In a large event setting the grip test, seated med ball throw, and sport specific strength tests (185 bench press, metronome pushup) can be added to expedite the process and reduce time spent waiting. The third section includes all conditioning based tests. If the battery includes the interval test, the 300 yard shuttle is completed first followed by approximately a 5 minute rest period and then the interval test will be conducted last. If the battery does not include the interval test, the 300 yard shuttle will be the last test conducted.

Report Generation and Follow-up
Once the test has been conducted the raw data needs to be entered on the website (combine360.com). From this data a report is generated listing the results in each test as well as a composite score for each of the three sections and an aggregate C360 score. In the debrief the stage is set for the follow up with the athlete, parent, or coach. The data can be useful to help illustrate the need for training, serve as a guide for determining training priorities, act as the basis for goal setting, provide criteria for need-based training groups or individualizing training in a large group setting, as well as many other applications.
Scoring
Out of 360 points, each section is worth 120 points, with each test in that section equally weighted.

DQ/Penalty
For any infraction the following penalty will be assessed.

Timed Test – 1 second
Med Ball Test – 5 ft.
Jumping Test – 1 foot.
FOUNDATIONAL ATHLETICISM

Rationale
‘Foundational Athleticism’ includes the most foundational 9 measures of athletic performance determined by the IMG Performance Institute and the standards of the physical conditioning industry, with each of the tests featured in an existing professional combine (specifically NFL, NBA, NHL or MLS). These 9 elements are measured across all sports which also provide a cross section of ‘pure’ athleticism. Further testing in the Combine360 will address more sport specific components that addresses the different demands that different sports provide.

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Note: 1 assessor required, although for groups of 5 or more, an Instructor and a recorder is recommended for each station. Recommended maximum of participants at one station would be 30.
**FA1– BROAD JUMP**

Tests the ability to accelerate the body forward from a standstill.

**Set Up**
Tape measure is secured to the ground and positioned from the start line bordering a sideline.

**Description**
Athlete starts in a standing position standing on a yard line.

The athlete jumps out as far as they can trying to achieve maximal horizontal distance and must stick their landing (falling forwards is acceptable as long as the foot placement does not move).

The total distance is measured from the start line to the athletes back heel or closest body part to the line (e.g. Hand).

**Repetitions & Scoring**
Record the best result of 2 scores. If the 2 scores are both fouls (e.g. landing on their back, or not ‘sticking’ the landing), then the score is considered a disqualification.

The score is listed in FEET & INCHES. The FURTHER the distance, the BETTER the score.

Minimum distance is 0 inches, Maximum distance is 12 feet.

Distance recorded to the full inch measure as a ‘floor function’ of nearest inch, (e.g. 7 feet 8 ½ inches. would be recorded as 7 feet 8 inches).

Data must be entered as Feet and Inches, (e.g. 7 feet 8 inches).

DQ/Penalty - failure to keep feet planted on the countermovement (depth, drop, step, etc) or feet moving forward on the landing of the jump (hop, step, etc).
**FA2– SEATED MED BALL THROW**

Tests upper body power from a seated static position.

**Set Up**
Equipment needed – 8lb. med ball, standard yoga mat 24 inches x 72 inches, wall or flat vertical surface & measuring tape

Position mat directly against the wall (or equivalent) so the 24 inch width is contacting the wall and the 72 inch length extends out perpendicular to the wall.

Next to the mat anchor the tape measure against the base of the wall and extend out perpendicular from the wall.

**Description**
Athlete sits with back flat against the wall in the middle of the mat with legs straight and spread the width of the mat so that the heels are placed on the ground directly adjacent to the edge on each side of the mat.

Hold med ball in both hands at the center of the torso so that the forearms are parallel to the floor.

Maintaining posture perform a maximum effort chest pass to achieve maximum distance.

Back and head should remain firmly against the wall during the execution of the throw.

**Repetitions & Scoring**
Best of 2 scores recorded.

The SCORE is listed in FEET. The FURTHER the distance, the BETTER the score.

Minimum distance is 0 feet, Maximum distance is + 40 feet.

Distance recorded to the full foot measure as a floor function of nearest foot, (e.g. 21 feet 8 inches would be recorded as 21 feet).

Data entered with 0 decimal points.

DQ/Penalty - failure to keep to keep back and head in still contact with the wall or failure to start from a to contact from the static position with med ball against the torso.
Tests the ability to elevate body upwards from a standstill.

**Set Up**
Equipment needed – Vertec™ Jump Tester

Set Vertec™ to the appropriate height to take standing reach measurement. Once the reach measurement has been taken reposition the height of the Vertec to an appropriate height for measuring maximum jump height.

*If 2 Vertecs™ are available set up Vertec™ #1 to take reach measurement and Vertec™ #2 to take vertical jump measurement.

**Description**
Measuring standing reach – Athlete starts in a standing position next to the Vertec, with the recommendation that athlete’s gaze is slightly behind the fins. Extended reach with the dominant hand and walk underneath the Vertec, maximizing reach to touch highest possible fin (monitored by tester) Reach is documented for later subtraction from the jump measurement.

Measuring vertical jump – Athlete starts in a standing position next to the Vertec. Athlete jumps as high as possible reaching up with the same dominant arm to move as many plastic fins as possible.

Recorder Instructions – Subtract the standing reach height from the vertical jump height to determine the net vertical jump (entered score).

**Repetitions & Scoring**
Record the best of 2 scores. If the 2 scores are both fouls (e.g. touching the pole), then the score is considered a disqualification.

The score is listed in INCHES. The HIGHER the distance, the BETTER the score.

Minimum height is 0 inches, Maximum height is + 50 inches

Data entered as ½ inches or 2 decimal points.

DQ/Penalty - failure to keep feet planted on the counter movement (depth drop, step, etc) contacting the Vertec pole while swiping at fins.
**FA4– 5-10-5**

Tests lateral explosiveness, change of direction, and body control.

**Set Up**

Equipment needed – 4 Cones, Timing device

3 cones set up on consecutive 5 yard lines, 1 additional cone at middle yard line (with 3 yards of width).

Soluble turf paint should be used if possible to mark lines (electrical tape may be used indoors).

Timer is stationed in the middle yard line.

**Description**

The athlete starts in static 3 point stance with the hand down contacting the midline keeping feet pointing straight ahead and evenly offset straddling the midline.

If beginning the shuttle right the athlete starts with the right hand down and likewise if beginning the shuttle to the left the athletes starts with the left hand down (the athlete may use either technique for both trials).

The athlete runs 5 yards in the direction of the hand that was down touching the line with the same hand that started down, they change directions turning towards the timer, they run 10 yards touching the line with the opposite hand that started down, they change directions again turning towards the timer and run 5 yards back through the original start line.

**Repetitions & Scoring**

Record the best of 2 scores.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 15 seconds.

Data entered as 2 decimal points.

DQ/Penalty - failure to touch the line with the required hand, failure to start from a static position, failure to turn the direction of the timer on the changes of direction, contacting the ground with an undirected hand (both hands touching the ground on a change of direction).
Tests explosiveness from static start and the ability to accelerate 10 yards.

**Set Up**
Equipment needed – Cones placed at 10 yard and 20 yard marks (Tape measure), 2 stopwatches or electronic timing systems (optional)

Station a hand timer at the 10 and 20 yard marks. If using an electronic timing system set up timing lights at the 10 and 20 yard marks with the timer stationed at the start line.

**Description**
Athlete can start in a stance of their choice however the assessor should recommend a three-point stance. Regardless of the stance the athlete must hold a static position behind the line prior to starting.

Time starts on the first movement of the athlete and ends when they cross the 10 and 20 yard marks respectively.

**Repetitions & Scoring**
Record the best of 2 scores.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 10 seconds.

Data entered as 2 decimal points.

DQ/Penalty – failing to start from a static position (rocking, leaning, etc).

*Note: 2 assessors required if hand timing or can be timed electronically.*
FA6– 20 YARDS

Tests short speed from a static start over a distance of 20 yards.

**Set Up**
Equipment needed – Cones placed at 10 yard and 20 yard marks (Tape measure), 2 stopwatches or electronic timing systems (optional)

Station a hand timer at the 10 and 20 yard marks. If using an electronic timing system set up timing lights at the 10 and 20 yard marks with the timer stationed at the start line.

**Description**
Athlete can start in a stance of their choice however the assessor should recommend a three-point stance. Regardless of the stance the athlete must hold a static position behind the line prior to starting.

Time starts on the first movement of the athlete and ends when they cross the 10 and 20 yard marks respectively.

**Repetitions & Scoring**
Record the best of 2 scores.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 10 seconds.

Data entered as 2 decimal points.

DQ/Penalty – failing to start from a static position (rocking, leaning, etc).

*Note: 2 assessors required if hand timing or can be timed electronically.*
FA7– DOMINANT HAND GRIP

Tests forearm and hand strength.

**Set Up**
Equipment needed – Hand dynamometer (‘Jamar’ brand recommended) – calibrated before each combine test.

Hand dynamometer set at 2nd shortest distance to the handle.

**Description**
Athlete holds hand dynamometer in dominant hand.

Extends arm straight out in front of the shoulder.

Athlete squeezes dynamometer with a consistent maximal effort (no jerk or pulse).

**Repetitions & Scoring**
Record the best of 2 scores.

The score is listed in LBS. The HIGHER the weight, the BETTER the score.

Minimum score is 0LBS, Maximum score is 220LBS.

Data entered as 0 decimal points.
Tests anaerobic fitness.

**Set Up**
Equipment needed – Cones, tape measure, stop watch

Set cones on yard lines 25 yards apart.

Tester is stationed at start line.

**Description**
Athlete starts in a two-point stance.

Run 25 yards and touch the yard line with a foot.

Change direction, run back to the start line and touch with a foot.

Change direction and repeat running down and back 6 times total.

**Repetitions & Scoring**
Record the best of 2 scores.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 120 seconds.

Time to the nearest second, 0 decimal points.

DQ/Penalty – failure to touch each line with foot.
Tests trunk flexion range of motion.

**Set Up**
Equipment needed – approved sit & reach box (e.g. Flex-tester® brand recommended) – calibrated/secured before each combine test

Sit and reach box set flat on the ground against a fixed point with finger plate set at starting position.

**Description**
Athlete removes shoes.

Takes a seated position with legs fully extended out in front and feet placed flat against the sit and reach box with feet no wider than 8” apart.

Place one hand on top of the other with the middle fingertips stacked on top of one another.

Knees must remain flat to the ground.

Extend arms straight out in front of body placing the stacked middle fingers against the finger plate.

Bend forwards sliding the finger plate forwards until no more range of motion can be achieved in a smooth continuous motion (no jerk or double reach).

**Repetitions & Scoring**
Record the best of 2 scores.

The score is listed in INCHES. The FURTHER the distance, the BETTER the score.

Minimum distance is – 5 inches, Maximum distance is + 12 inches.

Data entered as ¼ inches or 2 decimal points.

DQ/Penalty – failure to bend forwards in a smooth consistent motion (jerking, bouncing, etc), failure to keep middle fingers stacked on top of one another (one hand extends out in front of the other).
MOVEMENT

- SPORTS SPECIFIC MOVEMENT
- INTEGRATIVE MOVEMENT
- VISUAL ABILITY
**SPONSORS SPECIFIC MOVEMENT**

**Rationale**
The following physical tests compliment the ‘foundational athleticism’ component, by adding to the specific demands of different sports. The current list of sports includes baseball, basketball, football, golf, hockey, lacrosse, rugby, soccer, softball and tennis. In addition, an ‘all other/ general sport’ category features the most common physical tests beyond the foundation for athletes at a combine who either play multiple sports or who do not fit those previously mentioned. The tests were determined by a cross section of experts within the individual sports as well as within the sports performance industry.

**Overall Test Reference Guide**

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<td>Directional Movement</td>
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<td>Backward Med Ball Throw</td>
<td>Tests total body power in the sagittal plane.</td>
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<tr>
<td>Battle Movement</td>
<td>SS21</td>
<td>Stork Balance</td>
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### Hockey

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<td>SS13 Zig Zag Agility</td>
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<td>SS14 Metronome Push-Up</td>
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<td>Tests the ability to change direction, turn, and cut.</td>
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<td>Battle Movement</td>
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<td>Tests speed and conditioning in an incremental change of direction interval run with active recovery between bouts.</td>
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### Soccer

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SS1– 60 YARD

Tests baseball specific long speed.

**Set Up**
Station a hand timer at the 10, 20, and 60 yard marks. If using an electronic timing system set up timing lights at the 10, 20, and 60 yard marks with the timer stationed at the start line.

**Description**
Athlete starts in a stance of their choice (3 point stance recommended) at the starting line and sprints though the 60 yard mark.

**Repetitions & Scoring**
Best of 2 scores.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 10 seconds.

Data is entered with 2 decimal points.

DQ/Penalty - failure to start from a static position.

*Note: Complete all linear speed tests concurrently requiring 3 assessors if hand timing or can be timed electronically.*
Tests baseball specific speed on the base path.

**Set Up**
Set up bases properly.

Position a hand timer at home plate.

**Description**
Start facing 3rd base in a staggered stance with the trail foot contacting 2nd base.

From a set static position sprint around the base path, touching 3rd base, and run through home plate.

Time is started on first movement (must move from a set position).

Time is stopped when the plane of home plate is crossed (can step over plate do not need to contact).

**Repetitions & Scoring**
Best of 2 scores.

The score is listen in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 10 seconds.

Data is entered with 2 decimal points.

DQ/Penalty - failure to start from a static position or failure to touch 3rd base.
Tests the ability to use the total body to create rotational force.

**Set Up**
Equipment needed – 8lb. med ball

Start line with an anchored tape measure extended out perpendicular away from the line 70 feet.

**Description**
Athlete starts in an athletic stance positioned laterally to the start line.

The lead foot is on but not over the start line.

The athlete holds the med ball with one hand on each side of the bottom half of the ball.

Performs the countermovement keeping both feet on the ground.

Rotates and throws the ball with a maximum exertion to achieve a throw of maximum distance.

The athletes’ feet can only cross the start line after the ball has left their hands.

Explosively rotate through the underhand throwing motion to throw the med ball forwards as far as possible (feet can cross the line once the ball has been released).

**Repetitions & Scoring**
Best of 2 scores.

The score is listed in FEET. The FURTHER the distance, the BETTER the score.

Minimum distance is 0 feet, Maximum distance is + 60 feet.

Distance is recorded to the full foot measure as a ‘floor function’ of nearest foot, (e.g. 21 feet 8 inches would be recorded as 21 feet).

Data entered with 0 decimal points.

DQ/Penalty - failure to keep feet planted from initiation of throwing motion till release point.
Tests vertical elastic power.

**Set Up**
Create a half circle with a 15 foot radius.

Place the Vertec™ Jump Tester at the midpoint of the diameter.

Surface should be the natural playing surface (or next available option). The surface should be documented when entering data.

**Description**
Athlete can start anywhere within the half circle boundary.

Approaches the Vertec™ though by any method the athlete chooses.

Jumps with a takeoff of the athlete's choice to elevate and touch the highest possible point on the Vertec™.

**Repetitions & Scoring**
Best of 2 scores.

The score is listed in FEET & INCHES. The HIGHER the distance, the BETTER the score.

Minimum distance is 0 inches, Maximum distance is + 12 feet.

Distance recorded to the half inch, 2 decimal points.

DQ/Penalty - failure to stay within the half circle boundary during the approach or contacting the Vertec™ pole while swiping at fins.
Tests lateral quickness and change of direction over short distances.

**Set Up**
3 cones and foul lane with NBA dimensions (or equivalent).

Set up cones on each lateral boarder (16 feet wide) and one at the midpoint of the lane (8 feet from each side of the lane).

Extend a tape line from the middle cone down the center on the lane (parallel to the sides of the lane).

Timer stationed at the free throw line even with the taped midline.

**Description**
Athlete starts in athletic position straddling the taped midline with feet point straight ahead.

From a static position the athlete moves 8 feet to the right and touches the side of the foul lane (or equivalent) with right foot.

Change direction turning towards the timer and moves across the foul lane in the opposite direction 16 feet and touch other side of the foul lane (or equivalent) with left foot.

Change direction turning towards the timer and moves back through the taped midline.

Time starts on the athletes first movement and ends when the athlete crosses the taped midline after completing the shuttle.

Repeat same shuttle starting to the left.
Repetitions & Scoring
Best of 2 scores.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 20 seconds.

Data entered with 2 decimal points.

DQ/Penalty - failure to start from a static position, failure to touch the boundary line with the required foot, or failure to turn in the required direction on the change of direction.
SS6– MULTI-DIRECTIONAL AGILITY

Tests the ability to pivot, turn, and move in all directions.

Set Up
Basketball court with high school regulation lines and end line measured 45 feet from baseline.

Description
Athlete starts facing out of bounds with both feet on the baseline having the left foot where the baseline intersects the high school 3 point line.

The time starts on the first movement as the athlete turns towards the free throw line and sprints to the near side elbow, touch the elbow with the left foot.

Reverse pivot opening towards the near sideline, defensive slide (shuffle w/out crossing feet) directly down the lane line to the baseline touching the intersection of free throw lane and baseline with the lead (right) foot.

Reverse pivot opening towards the court to defensive slide (shuffle w/out crossing feet) across the baseline to the opposite lane line to touch the intersection of the free throw lane and baseline with the lead (left) foot.

Sprint forward down the lane line towards half court, at the elbow do a half turn by reverse pivoting on the right foot opening towards the near side line and continue moving towards half court in a back pedal, the time stops when the athlete crosses a measured line 45 feet from baseline moving backwards.

Repetitions & Scoring
Best of 2 scores. If the 2 scores are both fouls (e.g. pivot wrong way), then the score is considered a disqualification.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Data entered with 2 decimal points.

DQ/Penalty - failure to start from a static position, failing to touch denoted corners with foot, failing to turn the required direction, failure to stay in required shuffle (crossing feet).
Left foot – plant to sprint

Right foot – Reverse pivot

Right foot – Reverse pivot

Left foot – plant to sprint

FINISH

KEY
Red: Straight line sprint
Green: Shuffle without crossing feet
Yellow: Back pedal
Circle: Pivot point

START

1 2 3 4

19ft 9in

16 ft

45 ft
Tests field sport specific long speed.

**Set Up**
Station a hand timer at the 10, 20, and 40 yard marks. If using an electronic timing system set up timing lights at the 10, 20, and 40 yard marks with the timer stationed at the start line.

Surface should be the natural playing surface (or next available option).

The surface should be documented when entering data.

**Description**
Athlete starts in a 3 point stance on the start line and sprints through the 40 yard mark.

**Repetitions & Scoring**
Best of 2 scores.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 10 seconds.

Data is entered with 2 decimal points.

DQ/Penalty - failure to start from a static position.

*Note: Complete all linear speed tests concurrently requiring 3 assessors if hand timing or can be timed electronically.*
SS8– ‘L’ CONE

Tests the ability to change direction, turn, and cut.

**Set Up**

1st cone is placed on a yard line.

2nd cone is placed 5 yards directly in front of the first on the next yard line.

3rd cone is placed 5 yards to the right of the 2nd on the same yard line.

Timer is stationed on the start line.

**Description**

Athlete starts in a 3 point stance to the left of the 1st cone facing the 2nd cone.

Athlete runs forward touching the yard line of the second cone with their right hand.

Changes direction and runs back to starting yard line and touches with the right hand.

Changes direction, runs back to the second cone cuts on top of the cone to the right running at the 3rd cone.

Loop under and around the third cone.

Run back towards the 2nd cone.

Cut left and run through the start line next to the 1st cone.
Repetitions & Scoring
Best of 2 scores. If the 2 scores are both fouls (e.g. not set at the start), then the score is considered a disqualification.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 10 seconds.

Data entered with 2 decimal points.

DQ/Penalty - failure start from a static position, failure to touch the line with the required hand, failure to turn in the required direction on the changes of direction, contacting the ground with an undirected hand (both hands touching the ground on a change of direction), or contacting a cone.
**SS9 – BENCH PRESS 185**

Tests upper body strength capacity.

**Set Up**
Bench press station with 185lbs.

**Description**
Athlete lays flat in the bench press station with feet flat on the ground.

Grips the bar within acceptable range.

Gets a liftoff to start the test.

Lowers the bar to the chest for a light touch (no bounce allowed).

Pushes the bar back to the top of the motion with full elbow flexion for a countable rep and repeats as many times as possible.

The goal of the test is to perform the maximum number of countable reps.

**Repetitions & Scoring**
Only one attempt is allowed.

The score is listed in REPETITIONS. The MORE, the BETTER the score.

Minimum reps are 0, Maximum reps are 50.

Data entered with 0 decimal points.

DQ/Penalty - failure to touch the chest at the bottom of the motion, bouncing the bar off the chest, failure to achieve full elbow extension at the top of the motion.

*Note: College/Pro Football athletes replace 185lbs. with 225lbs. Additional safety precaution for this test include having a spotter and bar clips for securing weight.*
SS10– BACKWARDS MED BALL THROW

Tests the ability to accelerate the body forward from a standstill.

Set Up
Equipment needed – 8lb. med ball, start line with an anchored tape measure extended out perpendicular away from the line 80 feet.

Description
Athlete starts in an athletic stance facing opposite the direction of the throw holding the med ball in both hands.

Start with the heels on but not over the line and arms long holding the med ball between the legs.

Perform a countermovement and subsequent double arm backwards overhead throw with the intent of achieving maximal distance on the flight of the throw (feet can cross the line once the ball has been released).

Repetitions & Scoring
Best of 2 scores recorded.

The score is listed in FEET. The FURTHER the distance, the BETTER the score.

Minimum distance is 0 feet, Maximum distance is + 80 feet.

Distance recorded to the full foot measure as a floor function of nearest foot, (e.g. 21 feet 8 inch would be recorded as 21 feet).

Data entered with 0 decimal points.

DQ/Penalty - failure to keep feet planted from initiation of throwing motion till release point.
Tests thoracic mobility and the ability to separate hips and shoulder while simultaneously maintaining posture.

**Set Up**

Adjustable height stool or stationary chair placed at the back of the 6 foot x 3 foot grid scaled with degrees and sections and a 6 foot dowel rod.

A marker should indicate each 10° as depicted in the graphic below.

Tester takes the position on the appropriate side of the grid to obtain an accurate profile view of the athlete’s rotation.

**Description**

Athlete sits on a chair so thighs are parallel to the ground, feet are flat on the ground.

Knees are squeezed together and shoulder retracted with the dowel rod placed behind the shoulders directly above the superior angle of the scapulas.

Arms stretch out to side so elbows are directly below and the wrists are on top of the dowel rod locking it into place directly above the baseline of the grid.

Sitting as tall as possible in a static position with the knees squeezed keeping arms long and dowel rod in place rotate in the intended direction in a smooth controlled action to achieve largest range of motion possible.
**Repetitions & Scoring**

The score is listed as the section achieved. The FURTHER the section, the BETTER the score.

The best score for each side is taken.

Distance recorded to a ‘floor function’ of 10º, e.g. if an athlete rotates the dowel rod to 98º, the score is recorded as 90º.

Data is entered with 0 decimal points.

DQ/Penalty - failure to start from a static position without a countermovement, failure to keep knees together and feet flat on the ground or failure to keep dowel rod positioning against the scapulas at all times.
Tests vertical explosiveness from a loaded static position.

**Set Up**
Use same Vertec™ used for standard vertical jump test.

Use same standing reach measurement obtained in standard vertical jump test.

**Description**
Athlete starts in a standing position next to the Vertec™.

From standing position perform countermovement and stop at the bottom of this movement pausing in a motionless position for 1 second.

After the pause at the base of the jump position the athlete performs a max vertical jump without any additional countermovement from the arms or legs touching the highest possible point on the Vertec™ using the same dominant arm that was used to calculate reach.

Subtract the standing reach height from the vertical jump/pause height to determine net vertical jump/pause (entered score).

**Repetitions & Scoring**
Best of 2 scores.

The score is listed in INCHES. The HIGHER the distance, the BETTER the score.

Minimum height is 0 inches, Maximum height is + 50 inches.

Data entered as ½ inches or 2 decimal points.

DQ/Penalty - failure to pause at the bottom of jump for a full second, using an additional countermovement when initiating jump from pause, or contacting the Vertec™ pole while swiping at fins.
SS13– ZIG ZAG AGILITY

Tests the ability to change direction, turn, and cut in a small space.

Set Up
Position cones according to the diagram so cones are stationed at the corners of a box measuring 10 foot x 16 foot and one cone is placed directly in the center of the box.

Extend a tape line out 3 foot from cones 1 and 2 as an extension of the 16 foot sides.

Timer is stationed on the start line.

Description
Athlete starts in a 3 point stance (either hand can be down) at the start line immediately to the left of cone 1.

Athlete runs forward to cone 2, cuts around the outside of cone 2 towards cone 5 (middle).

Cuts around cone 5 and runs at cone 3.

Cuts around the outside of cone 3 and runs towards cone 4.

Cuts around the outside of cone 4 towards cone 5.

Cuts around cone 5 and runs at cone 1.

Cuts around cone 1 moving towards cone 2, touches the taped line extending from cone 2 with either hand, changes direction and sprints back through the starting line. Time starts on the athlete's first movement and ends when the athlete crosses the taped starting line after completing the entire pattern.
Repetitions & Scoring
Best of 2 scores.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 20 seconds.

Data entered with 2 decimal points.

DQ/Penalty - failure to start from a static position, failure to touch the line with a hand, contacting the ground with an undirected hand (including both hands touching the ground on a change of direction), or contacting a cone.
SS14- METRONOME PUSH-UP

Tests upper body strength capacity.

Set Up
Set metronome to 50 (pace of 25 pushups/min).

Description
Athlete needs to get into a prone position with legs together, hands under the shoulders, fingers pointed straight ahead, bodyline is long and rigid (no postural breaks).

Start with elbows fully extended and lower to 90° of elbow flexion (with no part of the body touching the floor other than possibly a light chest contact depending on body size) and then return to starting position.

Coordinate up and down movements with metronome without pausing for as many reps as possible maintaining posture (one rep is considered a lowering to 90° depth of elbow flexion and returned to the up position with elbows fully extended).

Test is terminated if the athlete fails to keep up with the metronome cadence or breaks posture.

Count and record the number of consecutive repetitions on pace with the cadence and with the required posture.

Repetitions & Scoring
Only one attempt is allowed.

The score is listed in REPETITIONS. The MORE, the BETTER the score

Minimum reps are 0, Maximum reps are 100.

Data entered with 0 decimal points.

DQ/Penalty - failure to reach the required end ranges of motion (90 elbow flexion and full elbow extension), bouncing the bar off the chest, failure to achieve full elbow extension at the top of the motion.
SS15– INTERVAL RUN

Tests speed and conditioning in an incremental change of direction interval run with active recovery between bouts.

**Set Up**
Position cones according to the diagram so that a recovery distance of 5 yards, a start line, and run distances of 16, 18, 20, 22, 24, 26, 28, 30, 32 yards are clearly sectioned off. Each run distance is considered a level from 16 yards (level 1) up to 32 yards (level 10).

A single assessor is positioned closer to the start line but still in view of the run cones with a timer and whistle.

Multiple assessors would be positioned on either end of the run with one monitoring the run cones and the other monitoring the start line and recovery zone.

The assessor on the start line has the stopwatch and whistle.

Surface should be the natural playing surface (or next available option). The surface should be documented when entering data.

**Description**
Athlete starts in 2 point stance on start line.

On the whistle the athlete runs to the first interval distance, touches with the foot and runs back through the start line.

The athlete must complete the run in 10 seconds or less.

The athlete jogs to the recovery line, touches with the foot, jogs back to the start line ready to begin the next bout on the whistle after a 10 seconds recovery period.

The athlete repeats this process 3 times at each interval distance in ascending order until they cannot complete the interval runs in the 10 seconds time period.

**Repetitions & Scoring**
Only one attempt is allowed.

The score is listed as LEVEL-BOUT completed. Each level has 3 bouts associated with it. If an athlete completes 2 bouts at level 1 but fails to complete bout 3 the score is recorded as 1-2.

Minimum score is 1-1, Maximum score is 10-3.
Tests field sport specific long speed (metric scale).

**Set Up**
Station a hand timer at the 10, 20, and 40 meter marks. If using an electronic timing system set up timing lights at the 10, 20, and 40 meter marks with the timer stationed at the start line.

Surface should be the natural playing surface (or next available option). The surface should be documented when entering data.

**Description**
Athlete starts in a 3 point standing stance on the start line and sprints through the 40 meter mark.

**Repetitions & Scoring**
Best of 2 scores.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 10 seconds.

Data entered with 2 decimal points.

DQ/Penalty - failure to start from a static position.

*Note: All distances for linear speed need to be in meters so the 10 and 20 yard distances in foundational athleticism convert to 10 and 20 meters. Complete all linear speed tests concurrently requiring 3 assessors if hand timing or can be timed electronically.*
SS17– 40 YARD ANGLE

Tests softball specific speed on the base path.

Set Up
Set up bases properly.

Position a hand timer at home plate.

Surface should be the natural playing surface (or next available option.) The surface should be document when entering data.

Description
Start facing 3rd base in a staggered stance with the lead foot contacting 2nd base.

From a set static position sprint around the base path, touching 3rd base, and run through home plate.

Time is started on first movement (must move from a set position).

Time is stopped when the plane of home plate is crossed (can step over plate do not need to contact)

Repetitions & Scoring
Best of 2 scores.

If the 2 scores are both fouls (e.g. landing on their back, or not The score is listed in SECONDS. The LOWER the time, the BETTER the score

Minimum time is 1 second, Maximum time is 20 seconds.

Data entered with 2 decimal points.

DQ/Penalty - failure to start from a static position or failure to touch 3rd base.
Tests multidirectional quickness, agility and body control.

**Set Up**
Mark out hexagon with a 1" thick boarder, 24" sides, and 120 degree angles on a hard surface (ideally on tennis, basketball, or track surface).

**Description**
Athlete starts standing within the hexagon facing the front line.

Jumps over the line contacting the ground simultaneously with both feet and immediately jump back over to return to the inside of the hexagon again landing with a simultaneous double foot contact.

Continue in a clockwise direction with the double footed jumps over and back successive line constantly facing forwards (the same direction the athlete started in).

Complete 3 continuous clockwise revolutions.

Time is started on first movement (must move from a set position).

Time is stopped when the athlete lands in the hexagon after jumping over and back the 18th line (3 consecutive rotations).

Repeat same procedure in the counterclockwise direction.

**Repetitions & Scoring**
Athlete is given one attempt clockwise and counterclockwise. The best of these two scores is recorded.

The score is listed in SECONDS. The LOWER, the BETTER the score.

Minimum time is 1 second, Maximum time is 25 seconds.

Data entered 2 decimal points.

DQ/Penalty - failure to follow the required jump pattern or contacting a line.
Tests the ability to repeatedly turn and move in all directions.

Set Up
9 6 inch cones set up in four 20 foot x 15 foot grids (creating a total grid of 40 foot x 30 foot).

Cones are placed at each of the 9 intersecting angles.

Timer is stationed in the middle, outside the grid.

***after initial sprint forward, test is clockwise. Cones will be touched by either hand.

Description
Athlete starts in an athletic 2 point stance to the right of the center cone with feet behind the starting line.

From a static position the athlete sprints straight ahead to cone 1, touches it with either hand, changes direction and returns to center cone touching with either hand.

Sprint to cone 2, touch with either hand and return to the center cone.

Change direction by opening up to face forward and lateral shuffle right to cone 3. Touch the cone with either hand and lateral shuffle back to touch the center cone with either hand (feet may not cross over).

Sprint to cone 4, touch with either hand and return to the center cone.

Sprint to cone 5, touch with either hand and return to the center cone.

Sprint to cone 6, touch with either hand and return to the center cone.

Change direction to face forward and lateral shuffle to the left to cone 7, touch with either hand and lateral shuffle back to touch the center cone with either hand (feet may not cross over).

Sprint to cone 8, touch with either hand and return to touch the center cone with either hand.

Sprint to cone 1 again, touch with either hand and sprint back through the starting line.

Time starts on the athlete’s first movement and ends when the athlete crosses the starting line after completing the entire pattern.
**Repetitions & Scoring**

Athlete is given one attempt only.

The score is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 60 seconds.

Data entered with 0 decimal points.

DQ/Penalty - failure to keep feet planted on the countermovement (depth, drop, step, etc) or feet moving forward on the landing of the jump (hop, step, etc).
Tests the ability to repeatedly turn and move in all directions.

**Set Up**
Position 9 6 inch cones according to the dimensions on the diagram (29'6" x 19'8").

Timer is stationed in the middle outside of the cones.

**Description**
Athlete starts in a static 2 point stance to the right of the center cone with both feet behind the cone.

Time starts on the first movement of the athlete sprinting straight ahead to touch cone 1 (with either hand) and return to the center cone (touch with either hand).

Always opening hips towards the front (net) on the changes of direction sprint to cone 2 (touch with either hand and return to the center cone (touching with either hand).

Continue this pattern on cones 3-8 moving in a clockwise direction.

Time stops when the athlete returns to and touches the center cone after touching cone 8.

On the second attempt the athletes starts to the left of the center cone and completes the pattern in the counterclockwise direction.

**Repetitions & Scoring**
Athlete is given 1 attempt starting to the right and moving clockwise and one attempt starting to the left and moving counterclockwise. The best of the 2 times is reported.

Scoring is listed in SECONDS. The LOWER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 40 seconds.

Data entered with 2 decimal points.

DQ/Penalty - failure to touch each cone with a hand, failure to move in the required pattern, or failure to turn and open tips towards the front (net) on each change of direction.
SS21– STORK BALANCE

Tests the ability to balance and stabilize on the forefoot of a single leg.

**Set Up**
Put a 24” piece of tape on the ground.

Instruct athlete to remove shoes.

Timer is positioned behind the athlete.

**Description**
Have the athlete stand with hands on hips with right foot centered on the tape length wise.

Keeping right leg long as the standing leg lift the left leg and place the bottom of the left foot on the inside of the right knee with the intention of keeping the hips level.

Timer gives the command to ‘GO’ and the athlete raises the right heel off the ground and balances on the forefoot.

The time stops when one of the following happens, the athletes right foot shifts positions, the right heel touches the ground, or the left foot moves away from the inside of the right knee.

Give the athletes a short break and repeat the same procedure balancing on the left foot.

**Repetitions & Scoring**
Athlete is given 1 attempt on each side. The score is the sum time of the right and left sides.

The score is listed in SECONDS. The HIGHER the time, the BETTER the score.

Minimum time is 1 second, Maximum time is 120 seconds.

Data entered with 2 decimal points.
INTEGRATIVE MOVEMENT

Rationale
This section evaluates an athlete’s ability to integrate the musculoskeletal system with the neuromuscular system to achieve movement. It was specifically designed in both scale and scope to fit into the C360 battery. Three training based movements were selected to evaluate and measure the technical merit of athletic movement execution. These movements contain overlapping variables representing a cross-section of stances, postures, and motor programs required in or transferable to sport. The individual components of the tests contain different actions and body positions where the athlete must utilize the entire body to complete the required elements. Three different stances are utilized; double leg standing, single leg standing, and a plank. Three different motor programs are used; squat, RDL, and pushup. Three different arm actions are used; overhead press, transverse abduction/retraction, and chest press. Three different lower-upper connections are used; reciprocal (lower body flexion-upper body extension), hip-shoulder separation-rotation, cross body opposite (counter rotation of hips-shoulders). Overall, this section will challenge an athlete’s posture, balance, coordination, symmetry, and range of motion.

Overall Test Reference Guide

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<th>Criteria</th>
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<th>Test</th>
<th>Description</th>
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<tbody>
<tr>
<td>Total Body</td>
<td>IM1</td>
<td>Pressing Squat</td>
<td>Simultaneous lower body bending and upper body pressing resulting in an overhead squat position.</td>
<td>54</td>
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<tr>
<td>Balance</td>
<td>IM2</td>
<td>Rotational ‘T’ Balance</td>
<td>Single leg RDL, raising the arms out to the side, and coupled with a thoracic rotation.</td>
<td>56</td>
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<td>Posture</td>
<td>IM3</td>
<td>Push-Up Opposite</td>
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<td>58</td>
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</tbody>
</table>

Note: Shoes are not allowed during any of these tests. Shorts that fall below the knee, they must be rolled above the knee cap.
IM1 – PRESSING SQUAT

Simultaneous lower body bending and upper body pressing resulting in an overhead squat position.

<table>
<thead>
<tr>
<th>Elements</th>
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<tbody>
<tr>
<td>Squatting motor program</td>
<td>– hinging at hip, knee, ankle and muscle activation sequence.</td>
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<tr>
<td>Double leg utilization</td>
<td>– weight shift, rotation, or other unilateral compensation.</td>
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<tr>
<td>Reciprocal movement</td>
<td>– postural elongation caused by simultaneous lower body flexion and upper body extension.</td>
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</tbody>
</table>

Set Up

Equipment needed – dowel rod

The individual will place their feet shoulder width apart, toes facing forward in the sagittal plane. The individual will place their hands on the dowel rod so the wrists are in line with the elbows when bent at ninety degrees. Have the individual place the dowel rod lightly on their head to check the alignment of their hands. The tester will see if their hand placement is correct (if not, correct). Place the dowel rod on the back of the neck across the top of the shoulders.

Movement Execution

Begin the movement by squatting while simultaneously pressing the bar overhead.

Squat so that hips are below parallel pressing the bar straight upwards to achieve maximum depth.

Once athlete has reached maximum squat depth and a full overhead press, squat upwards and lower the bar to the standing (starting) position.

Grading / Scoring

The athlete will be graded on their ability to initiate the movement at the hips, squat and press through a full range of motion (ROM), keep the heels down, joints in line, and weight evenly distributed to both legs.

Measurements are based on observation of exercise by certified trainer.

The athlete will complete two attempts. The best score will be recorded. Measurements are based on observation of exercise by a certified trainer.

There are 6 levels of scoring: 0, 2, 4, 6, 8, 10.

Minimum score is 0, Maximum is 10.

Data entered with 0 decimal points.

If athlete reports experiencing pain in any aspect of the exercise, they automatically receive a score of a 0.
INITIATION OF MOVEMENT

Starting Position

No Control / Pain (0pts)

Hip Initiation (2pts)

Press Initiated (4pts)

Limited Control of Squat Press (6pts)

Pain or inability to start motion with competence (body weight moves forward and/or up onto the toes).

Hips move backwards to initiate motion with heels remaining flat.

Arms press up maintaining grip as squatting motion occurs.

Full Execution

Limited Control of Squat Press (6pts)

Partial Control of Squat Press (8pts)

Full Control of Squat Press (10pts)

Limited joint disparity/weight distribution, achieve 1/4 squat depth with arms straight ranging from in line with the head to above the tail bone.

Joints in line/no weight shift, achieve b/w 1/4 squat and 90° depth with arms straight, the hands above the shoulders and behind the ears.

Joints in line/no weight shift, achieve 90° squat depth or greater with arms straight, the above the shoulders and behind the ears.
**IM2– ROTATIONAL ‘T’ BALANCE**

Single leg RDL, raising the arms out to the side, and coupled with a thoracic rotation.

<table>
<thead>
<tr>
<th>Elements</th>
<th>Description</th>
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<tbody>
<tr>
<td>Multi-planar/multi-joint</td>
<td>RDL movement with shoulder transverse abduction/scapular retraction, and</td>
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<tr>
<td>movement</td>
<td>thoracic rotation.</td>
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<tr>
<td>Single leg utilization</td>
<td>maintain balance and center body weight on a single point of contact through</td>
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<td>an RDL motion and counter rotate the pelvis while rotation is generated at</td>
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<tr>
<td></td>
<td>the thoracic level.</td>
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<tr>
<td>Rotational pattern</td>
<td>separate hips and shoulders by maintaining counter-rotation of base, rotating</td>
</tr>
<tr>
<td></td>
<td>thru the thoracic region, and keeping shoulders retracted.</td>
</tr>
</tbody>
</table>

**Set Up**

Start with one leg on the ground and the other leg raised in front of the body with the knee bent 90° and arms long, straight in front of you with palms together.

**Movement Execution**

Begin the movement by hinging at the hips bringing the chest forwards and hips backwards stretching the unsupported leg behind you while simultaneously separating your arms out to the sides turning the thumbs upwards.

Continue hinging forwards till the chest and unsupported leg are parallel to the floor with the arms straight out to the sides and thumbs pointing up.

Keep the hips level, shoulders retracted, and head looking directly downwards as you rotate the opposite shoulder towards the standing leg.

Rotate as far as you can maintaining your balance then unrotate back to the T-balance position, reverse the hinge by driving the hips forwards and bring the arms back together in front of the body as you return to the single leg standing position you started in.

**Grading / Scoring**

The athlete will be graded on their ability to use their hips to create the hinging action, achieving a complete T-balance position, rotating the opposite shoulder towards the standing leg through a full range of motion (ROM), maintaining posture and balance through the entire motion.

The athlete will complete two consecutive attempts on each side starting on the right leg (denoted as the right side). The best score on each side will be recorded, reporting the right side score first. Measurements are based on observation of exercise by certified trainer.

There are 5 levels of scoring: 0, 2, 4, 6, 7.5.

Minimum score is 0, Maximum is 15.

Data entered to 1 decimal point.
Bilateral symmetry is a consideration in determining the final score. If an athlete scores a ‘7.5’ on the left and a ‘2’ on the right, an overall score of ‘9.5’ out of ‘15’ does not highlight the imbalance they show compared to someone with a score of ‘6’ and ‘6’ to achieve a ‘12’. Thus, an equation applies to the final score that accounts for any imbalance.

If athlete reports experiencing pain in any aspect of the exercise, they automatically receive a score of a 0.

**INITIATION OF MOVEMENT**

**Starting Position**

**No Control / Pain (0pts)**

Pain or inability to start motion with competence (posture breakdown and/or segments move out of sequence).

**‘T’ Initiation (2pts)**

Body line stays long with minimal spinal flexion and simultaneous. Bending forwarding, lifting leg behind the body, reaching arms out to the side.

**FULL EXECUTION**

**‘T’ Achieved (4pts)**

Achieve ‘T’ balance position. Body line is long (head to foot of raised leg) with the back flat and hips level. Arms are stretched wide with thumbs up and shoulders retracted.

**‘T’ + Partial Rotation (6pts)**

Partial rotation (1/4 turn or greater but less than a full turn) maintaining body line and retraction - reverse motion to return to starting position.

**‘T’ + Full Rotation (7.5pts)**

Full rotation (shoulder in line with hip of raised leg) maintaining body line and retraction - reverse motion to return to starting position.
IM3 – PUSH-UP OPPOSITE

Push up coupled with a cross body raise

<table>
<thead>
<tr>
<th>Elements</th>
<th>Description</th>
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<tr>
<td>Push up motor program</td>
<td>upped body pushing activation sequence</td>
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<tr>
<td>Plank posture</td>
<td>maintain long body line keeping hips and shoulders level, moving from 4 to 2 points of contact.</td>
</tr>
<tr>
<td>Cross body pattern</td>
<td>symmetry of action between both cross body connections</td>
</tr>
</tbody>
</table>

Set Up
The individual will kneel in a quadruped position. Place the hands underneath the shoulders (finger facing forward), knees under the hips and toes dorsiflexed. The individual will extend the legs directly behind the body to achieve a plank position with a long body line and pressure evenly distributed through the 4 points of ground contact.

Movement Execution
Begin the movement by bending the elbows and lowering the body as deep as possible maintaining the long bodyline, to receive credit for full completion you must be able to get all the way to the floor and touch only the chest to the ground.

As you push back up, raise opposite arm and leg, the arm rises laterally with the elbow bent at 90 degrees and the leg raises straight upwards with both the hips and shoulders staying level.

Raise the arm and leg simultaneously until full retraction and full hip extension are achieved and then hold that position for a motionless pause.

After the motionless pause lower the arm and leg to the original starting position so you are ready to start your second attempt.

Grading / Scoring
The athlete will be graded on their ability to maintain a long bodyline throughout the entire motion, initiating an opposite pattern, achieving a full range of motion (ROM) with the raised limbs, and establishing a static position at the top of the opposite pattern.

The athlete will complete two consecutive attempts on each side starting with raising the right arm and left leg (denoted as the right side). The best score on each side will be recorded (reporting the right side score first). Measurements are based on observation of exercise by certified trainer.

There are 5 levels of scoring: 0, 2, 4, 6, 7.5.

Data entered to 1 decimal point.
Bilateral symmetry is a consideration in determining the final score. If an athlete scores a ‘7.5’ on the left and a ‘2’ on the right, an overall score of ‘9.5’ out of ‘15’ does not highlight the imbalance they show compared to someone with a score of ‘6’ and ‘6’ to achieve a ‘12’. Thus, an equation applies to the final score that accounts for any imbalance.

If athlete reports experiencing pain in any aspect of the exercise, they automatically receive a score of a 0.

**INITIATION OF MOVEMENT**

- **Starting Position**

- **No Control / Pain (0pts)**
  - Pain or inability to start motion with competence (posture breakdown and/or segments move out of sequence).

- **Posture Initiated (2pts)**
  - Maintain plank posture by keeping a long body line throughout the entirety of the pushup motion (at any depth).

- **Opposite Initiated (4pts)**
  - Partial to full pushup with an initiation of a controlled opposite pattern (opposite arm and leg move together in a deliberate purposeful action) while maintaining body line and posture.

**FULL EXECUTION**

- **Partial Control (6pts)**
  - Half to full pushup maintaining posture through a synchronous transition into an opposite pattern consisting of partial retraction/abduction at the arm and partial hip extension on the raised leg.

- **Full Control (7.5pts)**
  - Full pushup with full ROM on opposite pattern consisting of full retraction/abduction at the arm and full hip extension keeping the raised leg long and achieving static stability. The entire movement is one smooth, continuous motion and static stability is achieved at the end ROM of the opposite pattern (2 points of contact).
VISUAL ABILITY

Rationale
The vision test in the Combine360 specifically measures the basic 6 external muscles of the eyes that work in antagonistic pairs (left-right, up-down, converge-diverge). We utilize the iSport Vision Performance program to assess, but also to train the eyes and efficiency that result in improved vision. These results come from increased strength in the muscles of the eye, increased endurance of these muscles and improved communication between the brain and the images captured by the eyes. The battery of vision tests cover the 6 basic movements of the eyes, specifically, saccadic eye movement across the horizontal plane (left-right), vertical plane (up-down) and the near/far exercise (convergence-divergence). Both the speed and accuracy of these movements give us a good index of visual acuity.

Overall Test Reference Guide

<table>
<thead>
<tr>
<th>Criteria</th>
<th>#</th>
<th>Test</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal Saccades</td>
<td>VA1</td>
<td>Horizontal</td>
<td>measure of rapid bilateral eye movements, critical as an athlete scans the field of play from one side to another</td>
<td>62</td>
</tr>
<tr>
<td>Vertical Saccades</td>
<td>VA2</td>
<td>Vertical</td>
<td>measure of rapid bilateral eye movements, critical as an athlete scans up and down the field of play</td>
<td>64</td>
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<tr>
<td>Near/Far Accommodation</td>
<td>VA3</td>
<td>Near/Far Boards</td>
<td>the ability to change the refractive power of the eyes to allow for clear focusing at near and far distances.</td>
<td>66</td>
</tr>
</tbody>
</table>

Note: The following equipment & personnel are required for these tests. Saccadic Test need charts x 2, clipboard(s), result sheet(s) and pencil(s), stop watch, one instructor, and answer key sheet for horizontal cycles and vertical cycles for observer/record taker. Near/Far Accommodations Test needs 1. Near testing board (small hand-held board), clipboard(s), result sheet(s) and pencil(s), stop watch, one instructor, answer key sheet for near/far cycles for observer/record taker, and far testing board.
Horizontal Saccadic Eye Movement is a measure of rapid bilateral eye movements, critical as an athlete scans the field of play from one side to another. Objects can't be recognized at this quick pace, but the sooner the movement is complete, the sooner the eyes can refocus. The saccade boards allow us to measure the speed and accuracy of the eyes performing this movement.

**Description**

Have the athlete stand centered between the 2 horizontal charts, 8 feet from the wall.

Have the athlete start with the top left letter on the left chart and read it out loud. The athlete needs to say the number/letter out loud to make sure the number/letter is being processed completely. It doesn't matter if the athlete starts on the left or right chart. The trainer can dictate before beginning the exercise.

Without moving the head have the athlete quickly move their eyes to the top left letter of the right chart and call it out loud.

Back to the left chart and read the second letter of the first line and then to the right chart and so on.
Continue for 30 seconds alternating between charts. Once the first row is complete, continue on to the second row.

Scoring is done by the number of complete cycles (read from both sheets) per minute. There are 10 number/letters per line on each sheet which would be 10 cycles.

If the athlete calls out the wrong letter/number, tell them they need to find the correct letter/number before continuing.

**Scoring**
The score is listed as cycles. The HIGHER the #, the BETTER the score.

Minimum score is 0, Maximum score is 40.

Only a complete cycle counts, there are no ‘half’ scores.

**Score Sheet**

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</table>
Vertical Saccadic Eye Movement is a measure of rapid bilateral eye movements, critical as an athlete scans up and down the field of play. Objects can’t be recognized at this quick pace, but the sooner the movement is complete, the sooner the eyes can refocus. The saccade boards allow us to measure the speed and accuracy of the eyes performing this movement.

**Description**
Have the athlete do the same procedure on the vertical charts, 8 feet from the wall.

The athlete should still read across the top line completely before starting line 2 (read across the lines like you are reading a book, but alternate between the top and bottom charts).

Continue for 30 seconds.

Score this exercise the same.
**Scoring**

The score is listed as cycles. The HIGHER the #, the BETTER the score.

Minimum score is 0, Maximum score is 40.

Only a complete cycle counts, there are no ‘half’ scores.

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**Score Sheet**

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<tr>
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</table>
Accommodation is the ability to change the refractive power of the eyes to allow for clear focusing at near and far distances. Accommodation is very important in most sports as athletes are constantly viewing far and near objects, or seeing objects moving towards them.

**Description**
Position the athlete 8 feet from the wall and look at the large chart positioned at the center of the wall.

Have the athlete hold the small chart 6 inches from the eyes and positioned visually just under the large chart. This way the athlete’s head does not move during the exercise because it is focused on eye movement.

The athlete starts reading out loud from the top left corner of the large chart. Always start with the large chart.

Start the countdown timer once the first letter has been read.

The athlete needs to read the letter/number out loud to make sure they are processing what they are seeing.

Now the athlete looks at the top left corner of the small sheet and reads it out loud.

The athlete continues reading from left to right, alternating between large and small charts and calling the letters/numbers out loud.
The athlete needs to read the charts like they would be reading a book, left to right, top to bottom.

Generally, as the athletes get to line 3 the exercise becomes more difficult since it is harder to fixate on the correct line and letter.

If the athlete calls out the wrong letter/number, tell them they need to find the correct letter/number before continuing.

Score the number of correct cycles completed in 30 seconds.

Make sure to correct the athlete if a wrong letter/number is called out.

Record one trial only.

**Scoring**
The score is listed in CYCLES. The HIGHER the # of cycles, the BETTER the score.

Minimum number is 0, Maximum number is 30.

Only a complete cycle counts, there are no 'half' scores.

**Score Sheet** *(Score complete # of cycles in 30 seconds)*

<table>
<thead>
<tr>
<th>Large</th>
<th>T</th>
<th>M</th>
<th>U</th>
<th>A</th>
<th>X</th>
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<td>A</td>
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<td>B</td>
<td>J</td>
</tr>
</tbody>
</table>
MENTALITY
NUTRITION
COMMUNICATION

Note: All tests in this section are taken and scored online.
Rationale
Many athletes focus a great deal of time and energy on the physical and technical components of training and exclude the mental components of training. Great psychology will not always overcome a lack of physical ability or technical skill. It does however, play a key role in attaining optimum performance. Assessing the mentality of an individual is a subjective measure, but acknowledging this, the science of psychology has developed ways to quantify these attributes. The Mental component of the Combine360 is a questionnaire developed to assess how an individual rates their own mental toughness.

Mental Toughness was defined as the

‘Mental ability to compete at ones best, no matter what the situation’.

In order to generate a questionnaire, a qualitative analysis was conducted with a selection of senior coaches determined by each director of IMG Academies Sports (IMG Bollettieri Tennis, IMG Leadbetter Golf, IMG Basketball, IMG Baseball, IMG Soccer). In this survey (n = 40), coaches provided answers to what they considered the key ingredients of ‘mental toughness’. From this, a deductive analysis found 7 higher order themes, which became the basis for the questionnaire. Items were generated by presenting the 7 higher order themes to a selection of junior athletes at IMG who gave their definitions and examples to their interpretations on the 7 themes presented by coaches. The most consistent and similar answers were used to provide the items for the questionnaire, to be scored on a Likert scale (1-5, never - always), consistent with similar tests used in the field.

A ‘lie scale’ was also incorporated into the questionnaire to help provide a scale for impression management. These questions were provided with extreme responses (such as ‘I do everything my coach tells me’). The psychometric properties of this questionnaire, continue to be under development but the purpose is to provide a basis of self-report and evaluation on mental toughness.
The questionnaire outlines 7 themes of mental toughness as derived from a qualitative analysis of IMG coaches. Included below is a broad definition of each criterion and the respective questionnaire items, with each item scored on a 1 – 5 basis (1: Never, 2: Rarely, 3: Sometimes, 4: Often, 5: Always). The online inventory has a total of 35 questions that will be randomly assigned from a pool of 100 questions. A formula will apply 5 questions from the pool to each of the 7 subsections and impression management scale. This randomization will help minimize learning effects while maintaining equivalent psychometric strength.

**ATTITUDE** – the perspective an individual holds toward any given situation.
- I love and respect the game.
- I stay positive all the time in practice.
- I stay positive & supportive of the people around me.
- I have a positive reaction to all situations.
- I respect others & carry myself with dignity.

**CONCENTRATION** – the ability to control the quality, quantity and direction of focus.
- I get completely focused on the game.
- I stay focused from beginning to end of training.
- I make smart decisions throughout practice.
- I concentrate hard, even when I am not involved in the game.
- I use routines and techniques to help me refocus.

**EFFORT** – willingness to put full intensity into preparation and action.
- I have a goal for every game.
- I have a goal for every practice.
- I give 100% effort in practice and competition.
- I have a great desire to play every day.
- I push myself beyond what is comfortable in games.

**CONFIDENCE** – self-belief behind an athlete’s expectations of success.
- I always believe in my abilities.
- I know I will perform well in games.
- I have trust in my abilities.
- I even walk with confidence when I compete.
- I am always confident I will win.

**COACHABILITY** – an athlete's ability and desire to learn and improve.
- I am a good listener and learn from my coaches.
- I have a good ability to adapt & accept changes in competition.
- I make adjustments and learn easily in practice.
- I always do as my coach asks.
- I respect that my coaches are always trying to help me improve.

**COMPOSURE** – the ability to focus and compete in the face of pressure or adversity.
I control my thoughts & emotions in practice.
Even when I get bad calls or bad ‘luck’, I always stay focused and positive.
I keep my cool when things go wrong & refocus for next time.
I compete at my best in pressure situations.
I stay in a positive mindset even when I’ve made a mistake.

AWARENESS – conscious attention to relevant cues in your internal & external environment.
I know what’s going on in the game.
I know what’s going on in practice.
I am always ready for any situation.
I understand what I do well and what I need to work on.
I am attentive to what is happening in the competition.

Also included in the scoring of the questionnaire is IMPRESSION MANAGEMENT (alternatively known as a ‘lie scale’). This can be considered, “either a direct manipulation of self-report to project a more flattering view or score than is genuinely perceived, OR a lack of self-awareness and objective perspective on reality”.

Even when I get bad calls or bad ‘luck’, I always stay focused and positive.
I give 100% effort in practice and competition.
I am always ready for any situation.
I have a positive reaction to all situations.
I concentrate hard, even when I am not involved in the game.
I always do as my coach asks.
I am always confident I will win.

SCORING
The score as average scores on a likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always). The HIGHER the average, the BETTER the score.

Every question MUST be answered. If a score has been left blank, an average cannot be provided and the section is void.
NUTRITION

Rationale
The quality of an individuals' everyday diet is the broad foundation for every part of their athletic development, and to optimize it is to lay the basis for fine-tuning, for changing body composition, to improve endurance and to allow the athlete to attain a high level of performance.

A Food Frequency Questionnaire is well-established as the most “user-friendly” way of dietary assessment as it does not require the presence of a nutritionist to be administered or scored. Since this format is restricted to one page only it requires a relatively short amount of time and attention span to complete. This makes it ideal to be completed before the assessment day or in a situation that needs to process large numbers in a short time.
The Combine360 Food Frequency Questionnaire is an online assessment. It evaluates the participants current diet quality by measuring the ratio between foods of high and low nutrient density. The results are expressed as the ratio of high nutrient /low energy density foods, and low nutrient density/high energy density foods. The foods listed are selected as being commonly consumed staples across a diversity of cultures and ethnicities, selected in order to provide a Diet Quality Ratio which reflects the balance between the two extremes in nutritional profile or presented in a randomized order to avoid participants anticipating “correct/incorrect” responses.

The ratio is independent of the actual number of servings of each type of food, and so can be applied to a wide range of food intakes.

**Scoring**

The score is a frequency score recorded on the example sheet below.

There is no minimum or maximum score.

0 decimal points.

The ratios are scored as follows:

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 or more</td>
<td>EXCELLENT diet quality</td>
<td>compatible with optimal health and high performance</td>
</tr>
<tr>
<td>1.50 – 1.99</td>
<td>GOOD diet quality</td>
<td>generally good food choices for an athlete</td>
</tr>
<tr>
<td>1.0 – 1.49</td>
<td>AVERAGE diet quality</td>
<td>supports normal health but can be improved</td>
</tr>
<tr>
<td>0.5 – 0.99</td>
<td>SUB-OPTIMAL diet quality</td>
<td>food choices not ideal for health or performance</td>
</tr>
<tr>
<td>0.49 or less</td>
<td>POOR diet quality</td>
<td>short and long term health will be affected by current diet</td>
</tr>
</tbody>
</table>
HOW OFTEN DO YOU EAT THESE FOODS? Write down the number of times, on average, per week, that you eat each type of food. Leave blank if you do not usually eat that food.

<table>
<thead>
<tr>
<th>Examples:</th>
<th>Times per week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread, white or wheat</td>
<td>8</td>
</tr>
<tr>
<td>Fish</td>
<td>2</td>
</tr>
<tr>
<td><strong>Now do these foods and drinks ........</strong></td>
<td></td>
</tr>
<tr>
<td>Chicken or turkey</td>
<td></td>
</tr>
<tr>
<td>Apples, pears</td>
<td></td>
</tr>
<tr>
<td>Bananas</td>
<td></td>
</tr>
<tr>
<td>Berries – (strawberries, blueberries, blackberries, etc)</td>
<td></td>
</tr>
<tr>
<td>Butter, margarine, peanut butter</td>
<td></td>
</tr>
<tr>
<td>Broccoli, lettuce, spinach, cabbage, green beans</td>
<td></td>
</tr>
<tr>
<td>Cake, muffins, doughnuts</td>
<td></td>
</tr>
<tr>
<td>Carrots, beets, parsnips, squash</td>
<td></td>
</tr>
<tr>
<td>Fish, seafood</td>
<td></td>
</tr>
<tr>
<td>Hard cheese (e.g. American, Swiss, Cheddar)</td>
<td></td>
</tr>
<tr>
<td>Chocolate and candy</td>
<td></td>
</tr>
<tr>
<td>Cookies, pastries</td>
<td></td>
</tr>
<tr>
<td>Cream, sour cream, cream cheese</td>
<td></td>
</tr>
<tr>
<td>French fries</td>
<td></td>
</tr>
<tr>
<td>100% fruit juices</td>
<td></td>
</tr>
<tr>
<td>Ice cream, frozen yogurt</td>
<td></td>
</tr>
<tr>
<td>Mayo, salad dressings</td>
<td></td>
</tr>
<tr>
<td>Melon, grapes</td>
<td></td>
</tr>
<tr>
<td>Peas, beans, lentils</td>
<td></td>
</tr>
<tr>
<td>Plums, apricots, peaches, nectarines</td>
<td></td>
</tr>
<tr>
<td>Potatoes – baked, mashed or boiled</td>
<td></td>
</tr>
<tr>
<td>Potato or corn chips</td>
<td></td>
</tr>
<tr>
<td>Sausages, bacon, bologna, salami</td>
<td></td>
</tr>
<tr>
<td>Sodas – regular or diet</td>
<td></td>
</tr>
<tr>
<td>Smoothies and milk shakes</td>
<td></td>
</tr>
<tr>
<td>Tomatoes, red/green/yellow peppers, zucchini</td>
<td></td>
</tr>
</tbody>
</table>
ASSESSMENT OF BASIC NUTRITION AWARENESS

General assessment of basic nutritional awareness and knowledge is taken in an online questionnaire. It evaluates the participants by asking 10 True/False questions regarding basic nutrition awareness randomly assigned from a pool of questions. Below are examples of questions for reference.

Breakfast is the most important meal of the day. TRUE / FALSE
Drinking water while you are exercising will make you fatigue quickly. TRUE / FALSE
Protein is essential for building new tissues and muscle. TRUE / FALSE
Foods like milk, yogurt, and cheese are important muscle fuels. TRUE / FALSE
Calories are how we measure the energy content of foods. TRUE / FALSE
Some fats are an essential part of a healthy diet. TRUE / FALSE
You can get enough vitamins and minerals just by eating a healthy diet. TRUE / FALSE
Whole grain foods have a lower nutritional value than ordinary ones. TRUE / FALSE
Carbohydrate foods are what make you fat. TRUE / FALSE
Antioxidants are what make people live to be over 100 years old. TRUE / FALSE
Community

Rationale
The ‘Communication’ component of the Combine360 represents how the athlete compliments their physical and mental abilities into interaction, in and out of the sport arena. Even in an individual sport, no athlete truly functions alone. At a junior level there is interaction with coaches, trainers, family, competitors, etc. At an elite level the addition of agents, managers, sponsors, fans, media, etc. also comes into play. At all levels, an athlete must rely on communication with those around them.

An athletes’ ability to handle the dynamics of communication directly impacts their confidence, which, in turn, impacts their ability to be successful in their sport and in life. How an athlete feels about himself or herself, how they treat others, how others treat them, how they perceive themselves and how their behavior is perceived by others all make an impact, for positive or negative. Most importantly, the athlete needs to understand that their response to “Tell me about yourself” must include information about their life beyond the sport they play.
Included below is a broad definition of each criteria and the respective questionnaire items, with each item scored on a 1 - 5 basis (1: Never, 2: Rarely, 3: Sometimes, 4: Often, 5: Always). The online inventory has a total of 25 questions that will be randomly assigned from a pool of over 50 questions. A formula will apply 5 questions from the pool to each of the 4 subsections and impression management scale. This randomization will help minimize learning effects while maintaining equivalent psychometric strength.

**SELF-AWARENESS**
Understanding the impression you make on others and the ability to present yourself accurately and confidently.

- I am able to share and explain unique things about myself.
- I understand what I do well and what I need to work on.
- I recognize opposite personality traits with regards to my own.
- I am always aware of myself and how others see me.
- I am able to adjust my energy level/status to fit the situation.

**BODY LANGUAGE**
Understanding the power of non-verbal communication and presenting yourself with strength and confidence.

- I maintain activity and energy in my face/body when relaxed.
- I appear comfortable in all situations.
- I make appropriate eye contact with others.
- My body language supports my intentions/meanings.
- I can adapt my physical presence to match the situation.

**HUMOR**
Finding the appropriate type of humor for a given situation and the ability to laugh ‘with’ instead of ‘at’ others.

- I use humor to add to a conversation.
- I recognize when humor or a joke is appropriate.
- I can adapt my sense of humor to the given situation.
- All people enjoy my sense of humor.
- I can laugh at myself.

**CONVERSATION / INTERACTION**
The ability to engage others and have conversations beyond one word answers and/or the obvious (sports related) topics.

- I react well to questions/topics that are off the original subject.
- I rarely get flustered or struggle to put words together.
- I always keep people engaged by my conversation/interview.
- I give detailed answers to questions.
- I am a good listener.

Also included in the scoring of the questionnaire is IMPRESSION MANAGEMENT (alternatively known as a ‘lie scale’). This can be considered, “either a direct manipulation of self-report to project a more flattering view or score than is genuinely perceived, OR a lack of self-awareness and objective perspective on reality”.

- I appear comfortable in all situations.
- I always keep people engaged by my conversation/interview.
- I am always aware of myself and how others see me.
- All people enjoy my sense of humor.

**Scoring**
The score as average scores on a Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always). The HIGHER the average, the BETTER the score.

Every question MUST be answered. If a score has been left blank, an average cannot be provided and the section is void.
When playing is your sport

**Introduction**

Combine360 is a movement and a journey guided by a systematic program of challenges and workouts that as a fitness discipline embraces open architecture while maximizing performance, health and fitness potential. This is the starting line for our community, not the finish line – connecting, collaborating, creating and learning. Combine360 is both a means of measurement and a training methodology. It is normalized to all ages to allow for a lifetime of physical fitness and a commitment to well rounded development. Whether it is developing talent in children or setting the foundation for a healthy lifestyle, having a framework for development is essential for enabling young people to be in a position to reach their goals. Combine360 is committed to creating the proper play based model by engaging young people in activity appropriate to their maturation and ability. By inspiring kids to be active and taking a systematic approach to the critical periods of development Combine360 fosters the fun culture necessary for optimal development of the next generation of athletes.

**Scoring**

A score is given for both Athleticism and Movement worth a 120 possible points in each section. There is NO Character component in the youth C360 because the self report method is not appropriate for this age group. Based on the child’s performance in both the Athleticism and Movement sections one of 4 classifications are assigned. Each classification has an overall evaluation and corresponding recommendations.

**DQ/Penalty**

For any infraction the following penalty will be assessed.

- Timed Test – 1 second
- Med Ball Test – 5 feet
**Rationale**
Playing is the purest form of athleticism. Children learn how to be athletic and develop their love of sport through the freedom and creativity of playing. Participation in a variety of activities helps build a general athletic foundation. Developing the athlete before specializing allows children to acquire the broad skill set that will enable their natural talent to be fully expressed.

### Overall Test Reference Guide

<table>
<thead>
<tr>
<th>Criteria</th>
<th>#</th>
<th>Test</th>
<th>Description</th>
<th>Page #</th>
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</thead>
<tbody>
<tr>
<td>Total Body Power</td>
<td>YA1</td>
<td>Med Ball Throw</td>
<td>Longest possible throw starting with feet planted using throwing motion of choice.</td>
<td>87</td>
</tr>
<tr>
<td>Single leg power, balance, and body control</td>
<td>YA2</td>
<td>Bound / Balance</td>
<td>Progressive angular bounds with a stick and balance hold in each ring.</td>
<td>88</td>
</tr>
<tr>
<td>Total body strength, posture and awareness</td>
<td>YA3</td>
<td>Sandbag Shuttle</td>
<td>3 tiered progressively weighted sandbag carry over a 10 yard shuttle distance.</td>
<td>89</td>
</tr>
</tbody>
</table>
YA1—MED BALL THROW

Longest possible throw starting with feet planted using throwing motion of choice.

Set Up
Secure a tape measure to a start line and extend out perpendicular ~40 feet.

Use a 6 lb. med ball for kids 8-10 years old and a 8 lb. med ball for kids 11-13 years old.

Tester is positioned at an appropriate distance out from the start line to spot the throws and determine distance thrown.

Description
Child starts in a 2 point stance of their choosing with both hands holding the med ball behind the start line.

Feet must stay planted on countermovement and throw initiation.

The throwing motion is up to the choosing of the child.

Once the ball is in the process of being released the feet may leave the ground.

The distance the ball travels in the air is marked and recorded.

Complete two throws (for both attempts the child can choose any throwing motion that is initiated and executed up till the release point with both feet contacting the ground).

Scoring
Distance in feet (always round down as a ‘floor function’).

DQ/Penalty - failure to keep feet planted from initiation of throwing motion till release point.
Ya2 – Bound/Balance

Progressive angular bounds with a stick and balance hold in each ring.

Set Up
Use a tape measure to position 11 rings (17 inch diameter) according to the diagram.

Use a 24 inch separation width for kids 8-10 years old and a 30 inch separation width for kids 11-13 years old.

Tester moves with the child staying slightly more than 1 ring level out in front of them.

Description
Child starts standing on their right foot in the starting ring (S).

Bound forward on an angle to stick the landing in the (R1) on the left foot.

Achieve a balanced posture (demonstrate motionless control) on that leg.

Once the tester observes a balanced posture they will give a verbal cue that the child can attempt to bound to the next ring.

Bound forward on an angle to stick the landing in the (R2) on the right foot.

Achieve a balanced posture (demonstrate motionless control) on that leg.

Continue through the progressively lengthening series of rings the same way.

Once a ring is missed or balance is lost the attempt is stopped and scored.

Complete two attempts to try and successfully navigate the series of 10 rings.

Scoring
Ring number achieved in series (0-10).
YA3– SANDBAG SHUTTLE

3 tiered progressive weighted carry over a 10 yard shuttle distance.

Set Up
Use a tape measure to position the 6 rings according to the diagram.

Place the sandbags in the appropriate rings (R2 - lightest, R4 - intermediate, R6 - heaviest).

Use sandbags weighing 10, 20, and 30 lbs. for kids 8-10 years old and sandbags weighing 20, 30, and 40 lbs. for kids 11-13 years old.

Tester is positioned on the starting side of the shuttle.

Description
Child starts in a 2 point stance with the lead foot in R1.

Start clock on the first movement of the child.

Sprint to R2 and grab the lightest sandbag.

Run back carrying the sandbag and deposit inside R1.

Sprint to R4 and grab the intermediate sandbag.

Run back carrying the sandbag and deposit it inside R3.

Sprint to R6 and grab the heaviest sandbag.

Run back carrying the sandbag and deposit it inside R5.

The clock stops when the sandbag is placed inside of R5.

Complete two trials.

Scoring
Time in seconds (2 decimal points).
Rationale
Any child based activity requires movement as it is the basis of both playing and sport. It is an essential component of athletic development. Learning how to link movements together sets the foundation for both fundamental motor programs and basic sport skills. High level athletes have a feel and timing to their movements which is the evolution of free play activities at an early age.

Overall Test Reference Guide

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Test</th>
<th>Description</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total body force application to generate linear speed</td>
<td>YM1 Sled Push</td>
<td>Push a weighted sled 20 yards.</td>
<td>91</td>
</tr>
<tr>
<td>Quickness, coordination, and first step acceleration</td>
<td>YM2 Double Ladder</td>
<td>Move forwards contacting each square in a double ladder finishing with a 5 yard burst.</td>
<td>92</td>
</tr>
<tr>
<td>Speed and agility</td>
<td>YM3 Arrowhead Run</td>
<td>Run through a multidirectional pattern once to the right and once to the left.</td>
<td>93</td>
</tr>
</tbody>
</table>
YM1– SLED PUSH

Push a weighted sled 20 yards.

**Set Up**
Use cones to create a lane 4 feet wide and 20 yards long.

Place a push sled (sled dawg elite recommended) at the beginning of this lane so that it is up against the starting line.

If the child is 8-10 year old total sled weight is 50 lb. (add 20 lb. to sled dawg elite) or if the child is 11-13 years old total sled weight is 70 lb. (add 40 lb. to sled dawg elite).

Tester is position at finish line or end of the denoted lane.

**Description**
Child starts in static position with both hands on the sled.

Start clock on the first movement of the child.

Push the sled in a straight line forwards over the 20 yard distance.

Time stops when the front of the sled crosses the finish line/gate.

Complete two trials.

**Scoring**
Time in seconds (2 decimal points).
YM2– DOUBLE LADDER

Move forwards contacting each square in a double ladder finishing with a 5 yard burst.

**Set Up**
Use cones to create a 4 feet wide 10 yard long lane.

Beginning at the start line center a 32 inches wide by 5 yard long double ladder.

Tester is position at finish line or end of the denoted lane.

**Description**
Child starts in a two point stance directly in front of the double ladder.

Start clock on the first movement of the child.

Move forwards through the ladder contacting one foot in each square (left foot on the left side of the ladder/right foot on the right side of ladder).

After hitting each square in the ladder burst forwards into a 5 yard sprint.

Time stops when the finish line is crossed.

Complete two trials.

**Scoring**
Time in seconds (2 decimal points).

DQ/Penalty - Failure to contact each square with the required foot.
YM3– ARROWHEAD RUN

Run through a multidirectional pattern once to the right and once to the left.

**Set Up**
Place 5 cones in this configuration: C1, C2, and C4 in the same line (C2 10 yards in front of C1, C4 5 yards in front of C2) with C3R 5 yards directly to the right of C2 and C3L 5 yards directly to left of C2 (refer to diagram).

Tester is positioned next to C1.

**Description**
Child starts in a stance of their choice just behind C1 on the opposite side of the direction of their first cut.

Clock starts on the first movement of the child
Sprint straight ahead to C2 and cut on the high side of the cone towards the low side of C3.

Cut underneath C3 and loop around in the direction of C4.

Cut on top of and around C4 looping back in the direction of C1.

Sprint all the way back through the line they started from next to C1.

The clock stops when they cross the start/finish line.

Repeat on the opposite side so one bout is completed on both the right and left sides.

**Scoring**
Time in seconds (2 decimal points).

If the child touches or knocks down a cone add .1 second for each incidence to the time.

Average the times of right/left runs and enter the averaged score.

DQ/Penalty - Contacting a cone.
Rationale

This section is not considered in the youth testing metric due to the fact that the self report method of capturing information is not going to be viable with this age group. While the character portion is not a testable element it nevertheless remains an essential component of the overall developmental process. Too often training models intended for adolescent and post adolescent athletes are directly applied to children. Proper exposure to appropriate character influences can help kids form good habits from a young age. Attitude, self esteem, among other character attributes are heavily influenced in this stage of development. Focusing on results at this age as opposed to development is not positioning the child to be successful in the future. Promoting voluntary engagement in play based activities is going to be the best course of action. It will not only allow for optimal athletic development but enabling kids to have fun being active helps set them up for a healthier and fitter lifestyle later in life.
GROUP ASSIGNMENT

Evaluation
• excelled in both activity categories
• performance indicates a solid athletic foundation

Recommendations
• continue engaging in multiple activities
• add fundamental sport skills and/or sport specific skills
• has the ability to compete/play with older children
• if the child is in the older age group with the necessary level of physical maturity more intense/structured training methods can begin to be gradually introduced

Evaluation
• excelled more in athleticism than movement categories
• more movement based activities needed in athletic foundation

Recommendations
• increase time spent playing tag based games
• introduce different movement patterns and different rhythms of movement (skipping, hopping, dancing etc).
• set up different patterns to move through (cones, hoops, ladders, etc) or use ‘wave’ drills to move in all directions
• play offensive/defensive games to work on integrating movement with other skills

Evaluation
• excelled more in movement than athleticism categories
• more athletically based activities needed in athletic foundation

Recommendations
• increase time spent playing games or activities that utilize hand-eye and foot-eye coordination
• encourage creativity and variety in skills and activities that involve whole body coordinated movements
• engage in games that involve perception and reaction
• introduce activities that involve body weight strength, control, and balance (monkey bars, cart wheels, martial arts etc)

Evaluation
• needs additional development in both categories
• overall improvement is necessary to achieve an athletic foundation

Recommendations
• increase general activity time
• add and diversify activities
• continue working on basics and well rounded development
• explore new groups/environments that inspire the child and leads to a natural desire to participate in those activities