

Upper Extremity Functional Testing Form

1. Assessments of Mechanics
 - i. Functional Movement Screen
 - ii. Isokinetic testing
 - iii. One-armed Seated Shot Put
 - iv. Closed Kinetic Chain Upper Extremity Stability Test (CKCUEST)
 - v. Y-Balance Test
 - vi. Sport Specific Testing
2. Restoration of Throwing Mechanics
 - i. Functional Throwing Performance Index (FTPI)
 - ii. Gait/Motion Analysis Lab (when available)

Functional Movement Screen

Functional Movement Screen (FMS)	Raw	Final	Comments & Corrective Exercise Prescribed
Deep Squat			
Hurdle Step L step over			
Hurdle Step R			
In Line Lunge L forward			
In Line Lunge R			
Shoulder Mobility L superior			
Shoulder Mobility R			
Active Impingement L			
Active Impingement R			
Active Straight Leg Raise L			
Active Straight Leg Raise R			
Trunk Stability Push Up			
Extension (Lumbar)			
Rotatory Stability L reaching			
Rotatory Stability R			
Flexion (Lumbar)			
TOTAL			

Raw Score: _____

- Score ≥ 15 : PASS/GREEN
- Score 12-14: CONDITIONAL/YELLOW
- Score < 12 : FAIL/RED

Based on deficits noted during FMS screening, corrective exercises should be initiated to guide this phase (see Appendix): Ankle Mobility/Core Mobility/Hip Mobility/Shoulder Mobility

Strength Testing

Biodex – Flexion/Extension, Con/Con @ 60°

Extension Peak Torque Right	_____	Extension Peak Torque Left	_____	Deficit	_____ %
Flexion Peak Torque Right	_____	Flexion Peak Torque Left	_____	Deficit	_____ %
Extension Peak TQ/BW Right	_____	Extension Peak TQ/BW Left	_____		

OR

Single Arm Dumbbell Press (max weight/3 or 5 reps) Involved/Uninvolved = _____/_____ = _____

Closed Kinetic Chain Upper Extremity Stability Test (CKCUEST)

1. Athlete is placed in the “up” push-up position
2. Place tape or markers directly in front of the patient’s hands
3. Explain to the athlete they must touch the opposite side marker alternating between hands



4. Time for 15 seconds, and record the number of lines touched; repeat 3 times

Reference Values:

Groups	Number of touches		Power		Normalized score	
	Test	Retest	Test	Retest	Test	Retest
Sedentary male (n=20)	22.67 (3.75)	25.30 (3.68)	83.43 (14.66)	93.37 (16.10)	0.33 (0.06)	0.37 (0.06)
Sedentary female (n=20)	24.58 (4.48)	28.47 (4.96)	62.93 (14.60)	72.87 (17.05)	0.39 (0.07)	0.45 (0.08)
Active [‡] Male (n=20)	24.78 (3.19)	27.13 (3.15)	84.47 (11.59)	92.78 (13.92)	0.40 (0.05)	0.39 (0.05)
Active [‡] Female (n=20)	27.97 (3.84)	31.97 (4.47)	72.55 (12.90)	83.06 (16.23)	0.44 (0.06)	0.51 (0.08)
Male SIS [§] (n=13)	10.10 (3.31)	11.82 (2.68)	38.59 (14.46)	45.02 (12.22)	0.15 (0.05)	0.18 (0.04)
Female SIS [§] (n=15)	12.20 (3.64)	13.73 (3.41)	37.63 (12.54)	42.33 (12.49)	0.20 (0.06)	0.23 (0.06)
Male reference values	18.5		150		0.26	
Female reference values	20.5		135		0.31	

[‡]Active = young healthy male or female recreationally active for upper extremity sport-specific.

[§]SIS = subacromial impingement syndrome.

Height: _____ (inches)

Body Weight: _____ (pounds)

Lines Touched (15 Sec): Trial 1: _____ Trial 2: _____ Trial 3: _____ **Average:** _____

Score: (Average # lines touched) / (Height[in]): _____

Power: (68% BW) x (Average # lines touched) / (15 Seconds): _____

Baseball Player Reference Values:

<u>Position</u>	<u>n</u>	<u>Mean *</u>	<u>Standard Deviation</u>
Pitcher	30	30.30	4.82
Catcher	9	30.41	3.52
Infielder	26	30.78	4.02
Outfielder	12	30.30	4.00
All Players	77	30.41	3.87

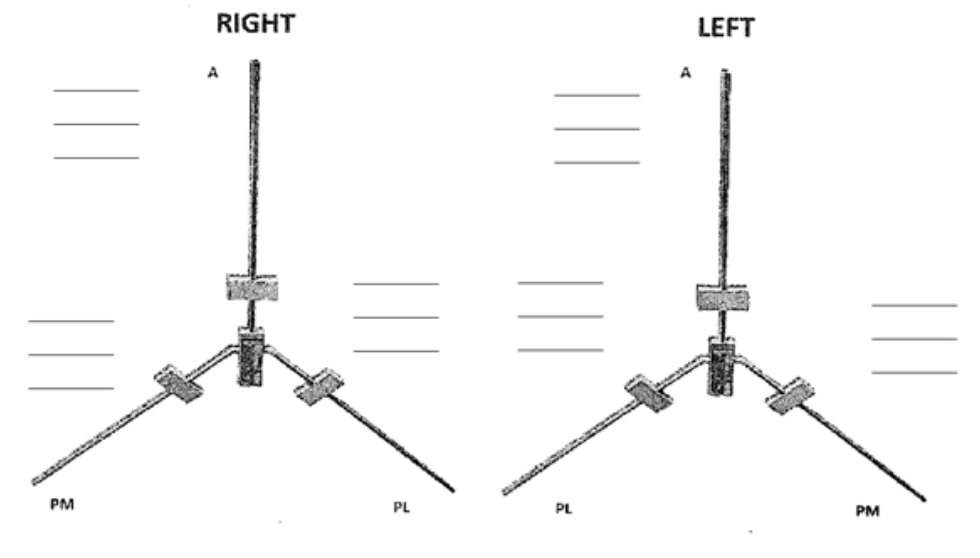
***The number of touches performed on the CKCUEST**

*Roush JR, Kitamura J, Waits MC, "Reference Values for the Closed Kinetic Chain Upper Extremity Stability (CKCUEST) for Collegiate Baseball Players, NAJSPT; 2(3): 159-163 (2007)

Upper Quarter Y-Balance Test (Dynamic Balance/Proprioception)



_____ limb length in centimeters: _____



Greatest Successful Reach

	Right	Left	Difference
Anterior (A)			
Posteromedial (PM)			
Posterolateral (PL)			

Composite Score

Right	
Left	

$$\frac{(\text{Anterior} + \text{Posteromedial} + \text{Posterolateral})}{3 \times \text{Limb Length}} \times 100$$

For Throwers:

Functional Throwing Performance Index (FTPI):

-Athlete stands 15 feet from a 1ft x 1ft square on the wall at 4 feet above the floor.

--Athlete is given 8 warm-up throws prior to testing

--Athlete throws a 20 inch "playground" rubber ball into the target as many times as possible over 30 second trials

Score: # of successful throws in the square / # of throws: _____

Reference Values:

$\bar{X}$	
14.55	Throws
6.80	Accuracy
.465	FTPI
.138	Standard deviation (SD)
.327-.603	Range (1-SD)
.189-.741	Range (2-SD)
Clinical Guidelines - FTPI	
15 Total throws	7 Accurate throws = 47% FTPI
Range 33-60%	

N = 100 males.