



## TrackMan Benchmarks

### *Junior Male 9-11*

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	56.5	83.5	16	3510	1.48	137.5
3-Wood	53.5	79.0	16	4320	1.48	121.5
5-Wood	51.5	76.0	17	4860	1.48	115.0
3-Hybrid	50.0	73.0	17	5130	1.46	112.5
4-Hybrid	49.0	71.0	18	5670	1.45	110.0
3-Iron	48.5	69.5	18	6075	1.43	106.0
4-Iron	47.5	68.0	20	6480	1.43	101.5
5-Iron	46.5	65.5	22	7020	1.41	97.0
6-Iron	45.5	63.0	23	7560	1.38	91.5
7-Iron	44.5	60.0	24	8100	1.35	86.0
8-Iron	43.0	57.0	25	9045	1.33	80.0
9-Iron	42.0	54.0	27	9720	1.29	74.0
PW	41.0	51.0	30	10530	1.24	68.0
GW	40.0	48.0	35	11070	1.2	62.5
SW	39.0	45.0	37	12015	1.15	57.5
LW	38.0	42.5	39	12690	1.12	52.5



## TrackMan Benchmarks

### *Junior Female 9-11*

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	47.5	70.1	17	3639	1.48	115.5
3-Wood	44.9	66.4	17	4480	1.48	102.1
5-Wood	43.3	63.8	18	5040	1.47	96.6
3-Hybrid	42.0	61.3	18	5320	1.46	94.5
4-Hybrid	41.2	59.6	19	5880	1.45	92.4
3-Iron	40.7	58.4	19	6300	1.43	89.0
4-Iron	39.9	57.1	21	6720	1.43	85.3
5-Iron	39.1	55.0	23	7279	1.41	81.5
6-Iron	38.2	52.9	24	7839	1.38	76.9
7-Iron	37.4	50.4	25	8400	1.35	72.2
8-Iron	36.1	47.9	26	9380	1.33	67.2
9-Iron	35.3	45.4	28	10080	1.29	62.2
PW	34.4	42.8	31	10920	1.24	57.1
GW	33.6	40.3	36	11480	1.2	52.5
SW	32.8	37.8	38	12460	1.15	48.3
LW	31.9	35.7	40	13160	1.12	44.1



## TrackMan Benchmarks

### *Junior Male 12-14*

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	67.8	100.2	15	3380	1.48	165.0
3-Wood	64.2	94.8	15	4160	1.48	145.8
5-Wood	61.8	91.2	16	4680	1.48	138.0
3-Hybrid	60.0	87.6	16	4940	1.46	135.0
4-Hybrid	58.8	85.2	17	5460	1.45	132.0
3-Iron	58.2	83.4	17	5850	1.43	127.2
4-Iron	57.0	81.6	19	6240	1.43	121.8
5-Iron	55.8	78.6	21	6760	1.41	116.4
6-Iron	54.6	75.6	22	7280	1.38	109.8
7-Iron	53.4	72.0	23	7800	1.35	103.2
8-Iron	51.6	68.4	24	8710	1.33	96.0
9-Iron	50.4	64.8	26	9360	1.29	88.8
PW	49.2	61.2	29	10140	1.24	81.6
GW	48.0	57.6	34	10660	1.2	75.0
SW	46.8	54.0	36	11570	1.15	69.0
LW	45.6	51.0	38	12220	1.12	63.0



## TrackMan Benchmarks

### *Junior Female 12-14*

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	58.8	86.8	16	3510	1.48	143.0
3-Wood	55.6	82.2	16	4320	1.48	126.4
5-Wood	53.6	79.0	17	4860	1.47	119.6
3-Hybrid	52.0	75.9	17	5130	1.46	117.0
4-Hybrid	51.0	73.8	18	5670	1.45	114.4
3-Iron	50.4	72.3	18	6075	1.43	110.2
4-Iron	49.4	70.7	20	6480	1.43	105.6
5-Iron	48.4	68.1	22	7020	1.41	100.9
6-Iron	47.3	65.5	23	7560	1.38	95.2
7-Iron	46.3	62.4	24	8100	1.35	89.4
8-Iron	44.7	59.3	25	9045	1.33	83.2
9-Iron	43.7	56.2	27	9720	1.29	77.0
PW	42.6	53.0	30	10530	1.24	70.7
GW	41.6	49.9	35	11070	1.2	65.0
SW	40.6	46.8	37	12015	1.15	59.8
LW	39.5	44.2	39	12690	1.12	54.6



## TrackMan Benchmarks

### *Junior Male 15-18*

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	81.4	120.2	14	3250	1.48	198.0
3-Wood	77.0	113.8	14	4000	1.48	175.0
5-Wood	74.2	109.4	15	4500	1.47	165.6
3-Hybrid	72.0	105.1	15	4750	1.46	162.0
4-Hybrid	70.6	102.2	16	5250	1.45	158.4
3-Iron	69.8	100.1	16	5625	1.43	152.6
4-Iron	68.4	97.9	18	6000	1.43	146.2
5-Iron	67.0	94.3	20	6500	1.41	139.7
6-Iron	65.5	90.7	21	7000	1.38	131.8
7-Iron	64.1	86.4	22	7500	1.35	123.8
8-Iron	61.9	82.1	23	8375	1.33	115.2
9-Iron	60.5	77.8	25	9000	1.29	106.6
PW	59.0	73.4	28	9750	1.24	97.9
GW	57.6	69.1	33	10250	1.2	90.0
SW	56.2	64.8	35	11125	1.15	82.8
LW	54.7	61.2	37	11750	1.12	75.6



## TrackMan Benchmarks

### *Junior Female 15-18*

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	72.3	106.9	15	3328	1.48	176.0
3-Wood	68.5	101.1	15	4096	1.48	155.5
5-Wood	65.9	97.3	16	4608	1.48	147.2
3-Hybrid	64.0	93.4	16	4864	1.46	144.0
4-Hybrid	62.7	90.9	17	5376	1.45	140.8
3-Iron	62.1	89.0	17	5760	1.43	135.7
4-Iron	60.8	87.0	19	6144	1.43	129.9
5-Iron	59.5	83.8	21	6656	1.41	124.2
6-Iron	58.2	80.6	22	7168	1.38	117.1
7-Iron	57.0	76.8	23	7680	1.35	110.1
8-Iron	55.0	73.0	24	8576	1.33	102.4
9-Iron	53.8	69.1	26	9216	1.28	94.7
PW	52.5	65.3	29	9984	1.24	87.0
GW	51.2	61.4	34	10496	1.2	80.0
SW	49.9	57.6	36	11392	1.15	73.6
LW	48.6	54.4	38	12032	1.12	67.2



## TrackMan Benchmarks

### *Mid HCP Female*

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	82.5	121.9	14	3250	1.48	200.8
3-Wood	78.1	115.3	14	4000	1.48	177.4
5-Wood	75.2	111.0	15	4500	1.48	167.9
3-Hybrid	73.0	106.6	15	4750	1.46	164.2
4-Hybrid	71.5	103.7	16	5250	1.45	160.6
3-Iron	70.8	101.5	16	5625	1.43	154.8
4-Iron	69.3	99.3	18	6000	1.43	148.2
5-Iron	67.9	95.6	20	6500	1.41	141.6
6-Iron	66.4	92.0	21	7000	1.39	133.6
7-Iron	65.0	87.6	22	7500	1.35	125.6
8-Iron	62.8	83.2	23	8375	1.32	116.8
9-Iron	61.3	78.8	25	9000	1.29	108.0
PW	59.9	74.5	28	9750	1.24	99.3
GW	58.4	70.1	33	10250	1.2	91.2
SW	56.9	65.7	35	11125	1.15	84.0
LW	55.5	62.0	37	11750	1.12	76.6



## TrackMan Benchmarks

### *Mid HCP Male*

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	93.8	138.6	13	3120	1.48	228.2
3-Wood	88.8	131.1	13	3840	1.48	201.7
5-Wood	85.5	126.2	14	4320	1.48	190.9
3-Hybrid	83.0	121.2	14	4560	1.46	186.8
4-Hybrid	81.3	117.9	15	5040	1.45	182.6
3-Iron	80.5	115.4	15	5400	1.43	176.0
4-Iron	78.8	112.9	17	5760	1.43	168.5
5-Iron	77.2	108.7	19	6240	1.41	161.0
6-Iron	75.5	104.6	20	6720	1.39	151.9
7-Iron	73.9	99.6	21	7200	1.35	142.8
8-Iron	71.4	94.6	22	8040	1.32	132.8
9-Iron	69.7	89.6	24	8640	1.29	122.8
PW	68.1	84.7	27	9360	1.24	112.9
GW	66.4	79.7	32	9840	1.2	103.8
SW	64.7	74.7	34	10680	1.15	95.4
LW	63.1	70.5	36	11280	1.12	87.1





## TrackMan Benchmarks

### *Low HCP Female*

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	90.4	133.6	13	2989	1.48	220.0
3-Wood	85.6	126.4	13	3679	1.48	194.4
5-Wood	82.4	121.6	14	4140	1.48	184.0
3-Hybrid	80.0	116.8	14	4370	1.46	180.0
4-Hybrid	78.4	113.6	15	4830	1.45	176.0
3-Iron	77.6	111.2	15	5175	1.43	169.6
4-Iron	76.0	108.8	17	5520	1.43	162.4
5-Iron	74.4	104.8	19	5979	1.41	155.2
6-Iron	72.8	100.8	20	6439	1.38	146.4
7-Iron	71.2	96.0	21	6899	1.35	137.6
8-Iron	68.8	91.2	22	7704	1.33	128.0
9-Iron	67.2	86.4	24	8280	1.29	118.4
PW	65.6	81.6	27	8970	1.24	108.8
GW	64.0	76.8	32	9430	1.2	100.0
SW	62.4	72.0	34	10235	1.15	92.0
LW	60.8	68.0	36	10810	1.12	84.0



## TrackMan Benchmarks

### *Low HCP Male*

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	101.7	150.3	12	2860	1.48	247.5
3-Wood	96.3	142.2	12	3520	1.48	218.7
5-Wood	92.7	136.8	13	3960	1.48	207.0
3-Hybrid	90.0	131.4	13	4180	1.46	202.5
4-Hybrid	88.2	127.8	14	4620	1.45	198.0
3-Iron	87.3	125.1	14	4950	1.43	190.8
4-Iron	85.5	122.4	16	5280	1.43	182.7
5-Iron	83.7	117.9	18	5720	1.41	174.6
6-Iron	81.9	113.4	19	6160	1.38	164.7
7-Iron	80.1	108.0	20	6600	1.35	154.8
8-Iron	77.4	102.6	21	7370	1.33	144.0
9-Iron	75.6	97.2	23	7920	1.29	133.2
PW	73.8	91.8	26	8580	1.24	122.4
GW	72.0	86.4	31	9020	1.2	112.5
SW	70.2	81.0	33	9790	1.15	103.5
LW	68.4	76.5	35	10340	1.12	94.5



## TrackMan Benchmarks

### ***LPGA***

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	93.8	138.6	13	2600	1.48	228.2
3-Wood	88.8	131.1	13	3200	1.48	201.7
5-Wood	85.5	126.2	14	3600	1.48	190.9
3-Hybrid	83.0	121.2	14	3800	1.46	186.8
4-Hybrid	81.3	117.9	15	4200	1.45	182.6
3-Iron	80.5	115.4	15	4500	1.43	176.0
4-Iron	78.8	112.9	17	4800	1.43	168.5
5-Iron	77.2	108.7	19	5200	1.41	161.0
6-Iron	75.5	104.6	20	5600	1.39	151.9
7-Iron	73.9	99.6	21	6000	1.35	142.8
8-Iron	71.4	94.6	22	6700	1.32	132.8
9-Iron	69.7	89.6	24	7200	1.29	122.8
PW	68.1	84.7	27	7800	1.24	112.9
GW	66.4	79.7	32	8200	1.2	103.8
SW	64.7	74.7	34	8900	1.15	95.4
LW	63.1	70.5	36	9400	1.12	87.1



## TrackMan Benchmarks

### PGA

Club	Club Speed (mph)	Ball Speed (mph)	Launch (°)	Spin (rpm)	Smash	Carry (yds)
Driver	113.0	167.0	11	2600	1.48	275.0
3-Wood	107.0	158.0	11	3200	1.48	243.0
5-Wood	103.0	152.0	12	3600	1.48	230.0
3-Hybrid	100.0	146.0	12	3800	1.46	225.0
4-Hybrid	98.0	142.0	13	4200	1.45	220.0
3-Iron	97.0	139.0	13	4500	1.43	212.0
4-Iron	95.0	136.0	15	4800	1.43	203.0
5-Iron	93.0	131.0	17	5200	1.41	194.0
6-Iron	91.0	126.0	18	5600	1.38	183.0
7-Iron	89.0	120.0	19	6000	1.35	172.0
8-Iron	86.0	114.0	20	6700	1.33	160.0
9-Iron	84.0	108.0	22	7200	1.29	148.0
PW	82.0	102.0	25	7800	1.24	136.0
GW	80.0	96.0	30	8200	1.2	125.0
SW	78.0	90.0	32	8900	1.15	115.0
LW	76.0	85.0	34	9400	1.12	105.0



## TPI Screen Form

Test	Pass/Fail	Comments
Pelvic Tilt		
Pelvic Rotation	<input type="checkbox"/>	<input type="checkbox"/>
Torso Rotation		
Overhead Deep Squat	<input type="checkbox"/>	<input type="checkbox"/>
Toe Touch		
90/90	<input type="checkbox"/>	<input type="checkbox"/>
Bridge w/ Leg Extension		
Lat Length	<input type="checkbox"/>	<input type="checkbox"/>
Seated Trunk Rotation		
Reach Roll & Lift	<input type="checkbox"/>	<input type="checkbox"/>
Single-Leg Balance		
Pelvic Thrust	<input type="checkbox"/>	<input type="checkbox"/>
Lower Quarter Rotation		
Wrist Set/Release	<input type="checkbox"/>	<input type="checkbox"/>
Neck Rotation		
Forearm Rotation	<input type="checkbox"/>	<input type="checkbox"/>



## TPI Instructions

Test	Instruction / Criteria
Pelvic Tilt	In golf posture, rock pelvis anterior & posterior smoothly.
Pelvic Rotation	Rotate pelvis keeping shoulders stable.
Torso Rotation	Rotate shoulders keeping hips stable.
Overhead Deep Squat	Arms overhead, squat below parallel, heels down.
Toe Touch	Feet together, knees straight, touch toes.
90/90	Supine, hips/knees 90°, rotate legs L/R keeping knees together.
Bridge w/ Leg Extension	Supine bridge, extend each leg 3-sec hold.
Lat Length	Seated, arms overhead near ears without rib flare.
Seated Trunk Rotation	Seated, club across shoulders, rotate ≥45° each way.
Reach Roll & Lift	Quadruped, reach arm forward, roll thumb up, lift arm.
Single-Leg Balance	Eyes closed, balance 15 s each leg.
Pelvic Thrust	Supine, knees 90°, thrust hips upward 10 reps.
Lower Quarter Rotation	Standing, rotate pelvis/torso over fixed foot.
Wrist Set/Release	Seated, radial & ulnar deviate wrists ≥60° each.
Neck Rotation	Rotate head L/R ≥60°, pain-free.
Forearm Rotation	Elbow 90°, pronate & supinate ≥90° each.



## Biomechanical Faults

Fault	Visual Symptom	Likely Cause	Key Drill	Coaching Cue	Metric to Track
Early Extension	Hips thrust toward ball on downswing	Weak glutes, poor sequencing	Chair-behind-hips drill	Maintain hip depth	Pelvic depth loss (in)
Casting / Early Release	Lag lost before P5	Over-active arms, weak grip	Pump-to-P6 drill	Retain $\geq 90^\circ$ lag at P5	Lag angle ( $^\circ$ )
Over-the-Top	Club path $>4^\circ$ left (RH)	Dominate upper body start	Under-plane noodle drill	Shallow transition	Club path ( $^\circ$ )
Hip Stall / Late Hip Turn	Hips square at impact	Lead-side weakness	Step-through drill	Hip open $\geq 30^\circ$	Hip turn at P7 ( $^\circ$ )
Reverse Spine Angle	Upper body tilts toward target at top	Limited lead hip IR, poor core control	Wall-spine checkpoint	Maintain forward bend	Spine angle top ( $^\circ$ )
Sway	Pelvis slides off ball backswing	Tight adductors, lack stability	Head-against-wall drill	Centered pivot	Head sway (cm)
Slide	Excess lateral shift downswing	Lead hip instability	Wall on lead side drill	Post on lead hip	Pelvic sway (cm)
Chicken Wing	Lead elbow breaks post-impact	Weak triceps, poor rotation	Towel under arms swings	Straight-arm extension	Lead elbow angle ( $^\circ$ )



## First Lesson Checklist

Item	Details
Player Interview	Goals, injury history, practice availability
Warm-up Observation	Note movement patterns, tempo
Baseline TrackMan	Capture Driver, 7-iron, PW
Short-Game Evaluation	Chipping, bunker, putting skill
Equipment Audit	Check lie/loft, grip size, shaft flex
TPI Screen	16-test movement screen
Capture Key Feels	Use player's language
Assign Homework	Max 2 focus drills





Practice Planner

Block	Drill / Skill	Balls / Time	Metric Goal	Notes
1.0				
1.0				
2.0				
3.0				
4.0				
5.0				
6.0				
7.0				
8.0				
9.0				



## TPI Recommendations

TPI Test (Fail)	Recommended Corrective / Drill
Pelvic Tilt	Cat/Camel, Wall Pelvic Tilts, Core Bracing drills
Pelvic Rotation	Half-kneeling Cable Rotations, 90/90 Hip IR stretches
Torso Rotation	Open-Book Stretch, Seated Thoracic Rotations
Overhead Deep Squat	Ankle Dorsiflexion Mobilizations, Goblet Squat with Heel Lift
Toe Touch	Toe-Touch Progression, Active Hamstring Stretch
90/90	Hip IR/ER Stretch, Controlled Articular Rotations (CARS)
Bridge w/ Leg Extension	Glute Bridge Iso-holds, Dead-Bug Variations
Lat Length	Kneeling Lat Stretch on Bench, Foam-Roll Lats
Seated Trunk Rotation	Tall-Kneel Thoracic Rotation with Band
Reach Roll & Lift	Wall Slides, Serratus 'Push-Up Plus'
Single-Leg Balance	Single-Leg Stance Eyes Closed, BOSU Balance Toss
Pelvic Thrust	Barbell Hip Thrusts, Glute Marches
Lower Quarter Rotation	Split-Stance Rotational Cable Pulls
Wrist Set/Release	Wrist CARS, Pronation/Supination with Hammer
Neck Rotation	Cervical CARS, Levator/Upper-Trap Stretch
Forearm Rotation	Sleeper Stretch for Forearm, Wrist Roller