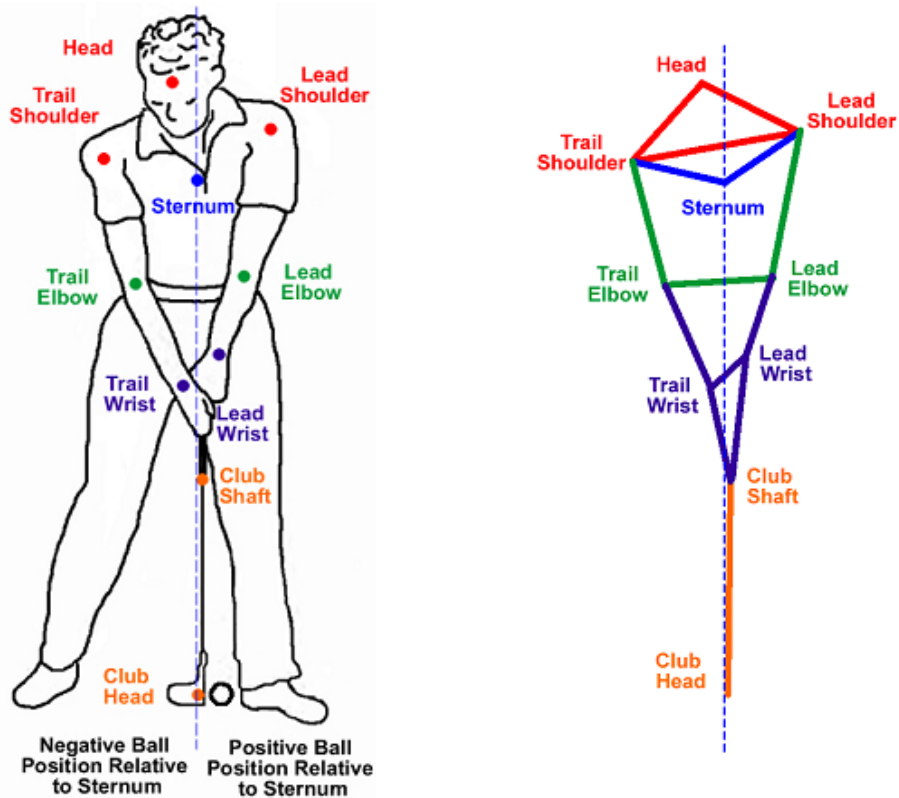


QUINTIC PUTTING ANALYSIS

Name	Paul Hurrion		
Email	paul@quintic.com	Date	22.10.14
Mass	76.2 kg	Handicap	2
		Height	175.3 cm

Summary

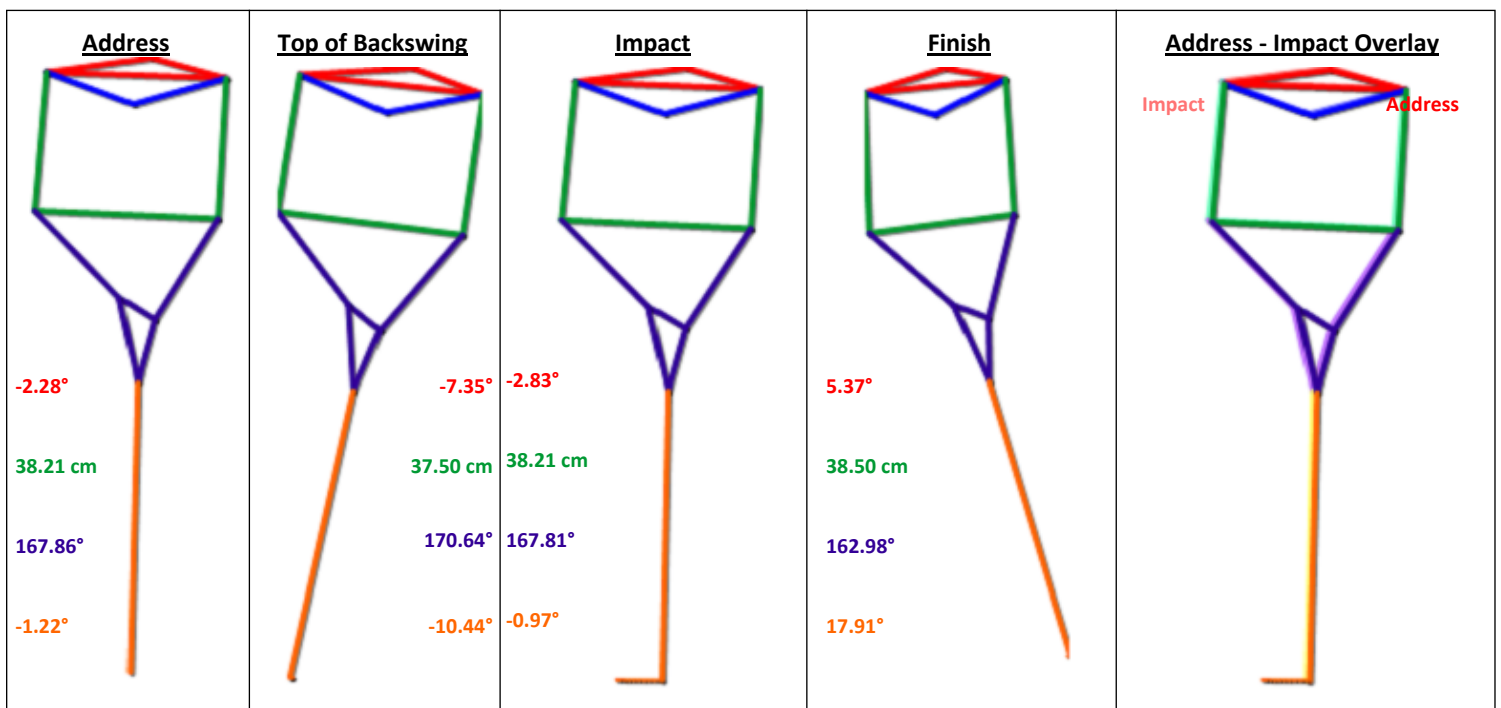
KEY AND DIAGRAMS



N.B. The above Markers are for Right Handed Golfers. For Left Handers, Trail and Lead will be reversed for the Shoulder, Elbow and Wrist Markers

POSITIONS

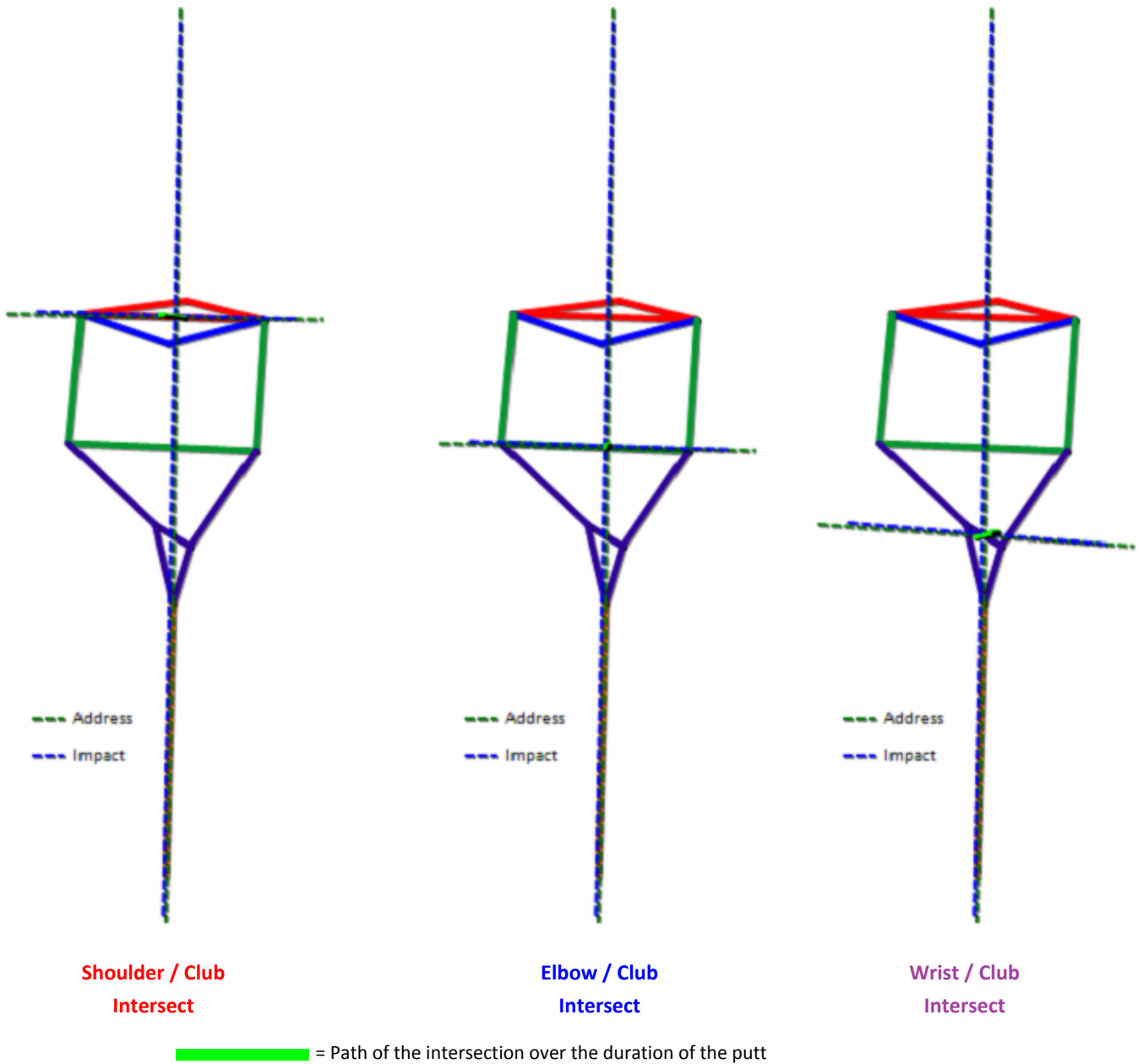
	Address	SD	Top of Backswing	SD	Impact	SD	Finish	SD
Shoulder Tilt (degrees)	-2.28°	0.65°	-7.35°	0.90°	-2.83°	0.77°	5.37°	0.75°
Shaft Angle (degrees)	-1.22°	0.17°	-10.44°	0.53°	-0.97°	0.20°	17.91°	1.22°
Lead Wrist Angle (degrees)	167.86°	0.39°	170.64°	0.39°	167.81°	0.25°	162.98°	0.53°
Elbow Distance (cm)	38.21 cm	0.44 cm	37.50 cm	0.42 cm	38.21 cm	0.40 cm	38.50 cm	0.38 cm
Ball Position Relative to Sternum (cm)	1.68 cm	(For Reference, see Page 1)						



HEAD KINEMATICS

	Sway	SD	Lift	SD
Head Displacement in the Backswing (cm)	0.24	0.18	-0.36	0.16
Head Displacement in the Downswing (cm)	-0.24	0.15	0.81	0.12
Head Displacement in the Throughswing (cm)	-0.43	0.28	1.24	0.18
Head Displacement from Address to Impact (cm)	0.02	0.30	0.44	0.18

PENDULUM MOTION OF STROKE



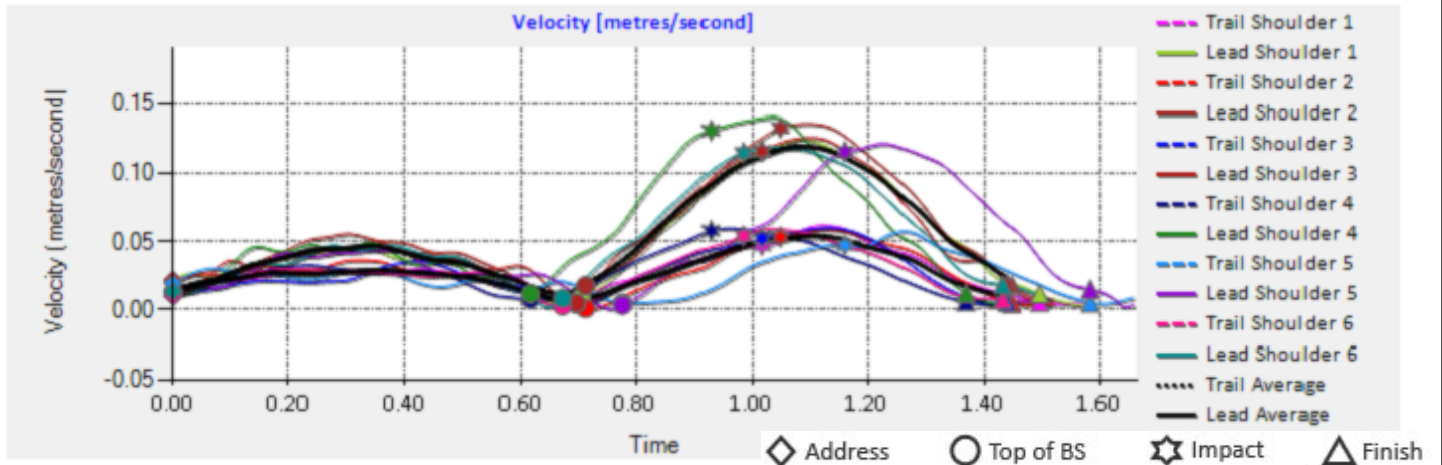
Intersect Angle (degrees):

	Address	SD	Top of Backswing	SD	Impact	SD	Finish	SD
Shoulder / Club Intersect	91.05°	0.58°	86.91°	0.47°	91.86°	0.64°	102.54°	1.02°
Elbow / Club Intersect	91.74°	0.29°	88.28°	0.31°	92.19°	0.32°	100.96°	0.48°
Wrist / Club Intersect	125.41°	1.18°	124.27°	1.39°	124.87°	1.19°	127.72°	0.61°

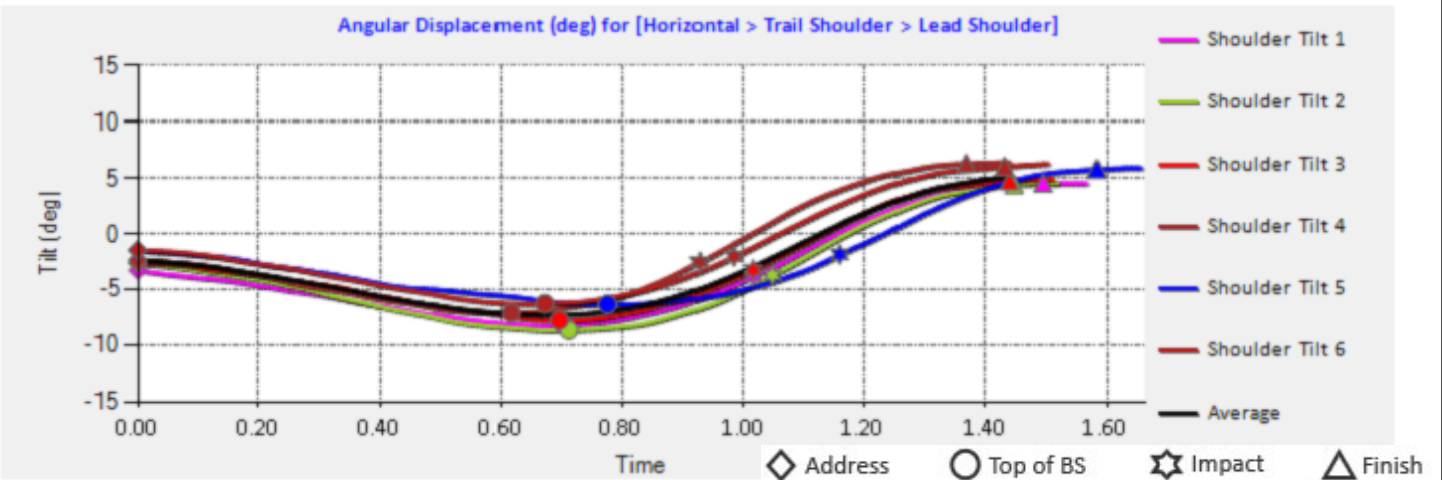
Difference between	Shoulder Intersect Angle	SD	Elbow Intersect Angle	SD	Wrist Intersect Angle	SD
Address and Top of BS (degrees)	-4.15°	0.19°	-3.45°	0.19°	-1.14°	0.56°
Top of BS to Impact (degrees)	4.95°	0.29°	3.91°	0.34°	0.60°	0.37°
Impact and Finish (degrees)	10.68°	0.88°	8.77°	0.70°	2.85°	0.81°
Address and Impact (degrees)	0.80°	0.31°	0.45°	0.30°	-0.54°	0.28°

SHOULDER AND UPPER TRUNK KINEMATICS

When Club Head at Maximum Velocity:	Lead Shoulder Velocity	SD	Trail Shoulder Velocity	SD
In the Backswing	0.05 m/s	0.00 m/s	0.03 m/s	0.00 m/s
<i>Percentage Attributable to each Shoulder</i>	60 %	2 %	40 %	2 %
In the Downswing	0.12 m/s	0.01 m/s	0.05 m/s	0.00 m/s
<i>Percentage Attributable to each Shoulder</i>	70 %	1 %	30 %	1 %
In the Throughswing	0.13 m/s	0.01 m/s	0.06 m/s	0.00 m/s
<i>Percentage Attributable to each Shoulder</i>	69 %	1 %	31 %	1 %



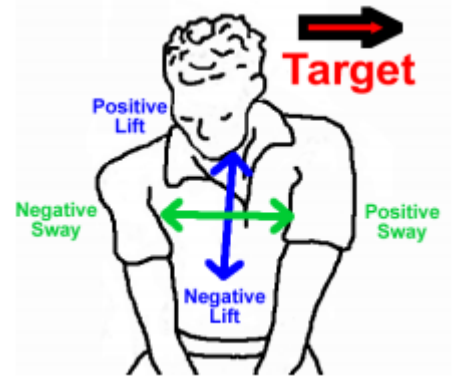
Shoulder Tilt (degrees):		SD	
At Address	-2.28°	0.65°	
At Top of Backswing	-7.35°	0.90°	
At Impact	-2.83°	0.77°	
At Impact Relative to Address	-0.56°	0.27°	
Degree of Tilt in Backswing	-5.07°	0.43°	
Degree of Tilt in Downswing	4.52°	0.22°	



Angle: Horizontal, Trail Shoulder, Lead Shoulder		SD	
Maximum Angular Velocity of Backswing (deg/s)	13.40	1.30	
Maximum Angular Velocity of Throughswing (deg/s)	30.06	1.06	
Ratio of Angular Velocity for BS compared to TS	1 : 2.24 (1 : 2= Double the Speed on the TS)		

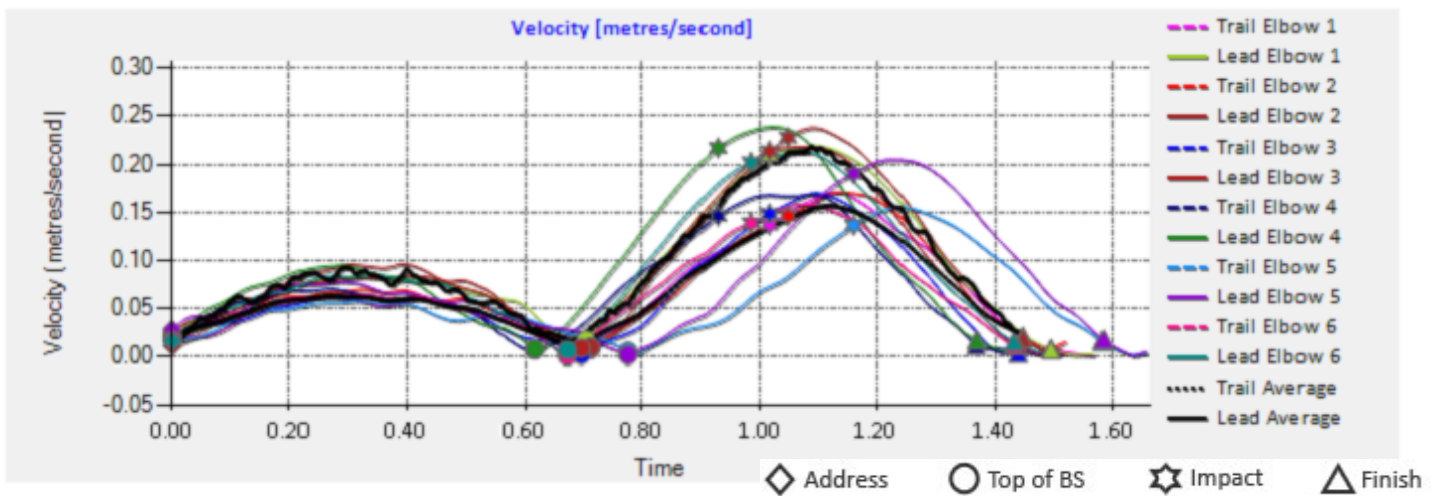
TRUNK KINEMATICS

	Sway	SD	Lift	SD
in the Backswing (cm)	-1.37	0.12	0.05	0.06
in the Downswing (cm)	0.81	0.23	0.40	0.04
in the Throughswing (cm)	1.13	0.21	0.91	0.06
from Address to Impact (cm)	-0.56	0.19	0.45	0.05

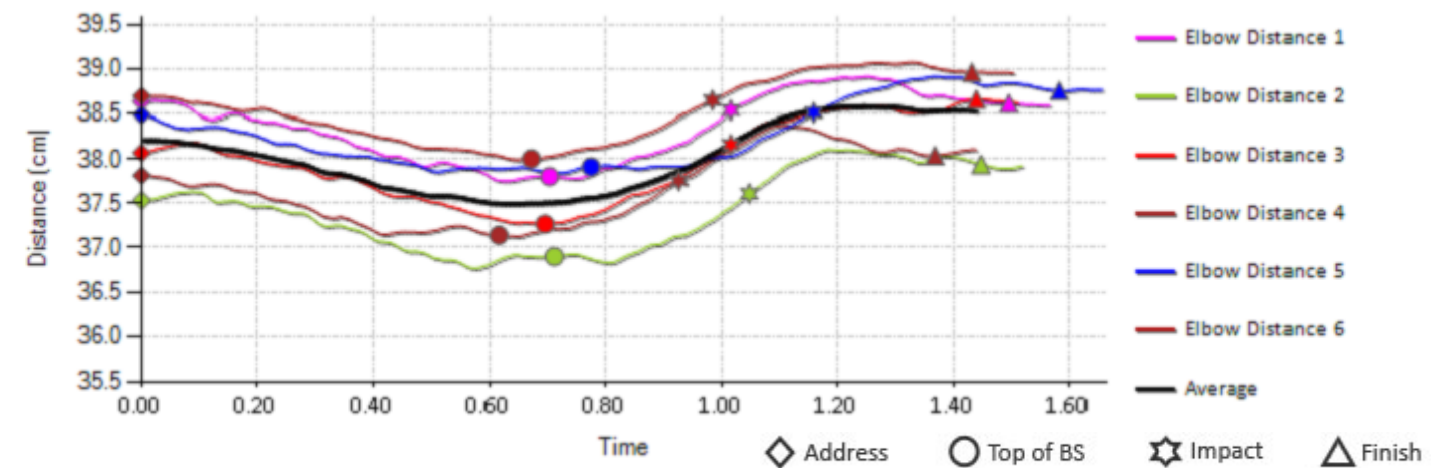


ELBOW KINEMATICS

When Club Head at Maximum Velocity:	Lead Elbow Velocity	SD	Trail Elbow Velocity	SD
In the Backswing	0.08 m/s	0.01 m/s	0.06 m/s	0.00 m/s
<i>Percentage Attributable to each Elbow</i>	57 %	1 %	43 %	1 %
In the Downswing	0.20 m/s	0.01 m/s	0.14 m/s	0.00 m/s
<i>Percentage Attributable to each Elbow</i>	60 %	1 %	40 %	1 %
In the Throughswing	0.22 m/s	0.01 m/s	0.16 m/s	0.01 m/s
<i>Percentage Attributable to each Elbow</i>	57 %	1 %	43 %	1 %

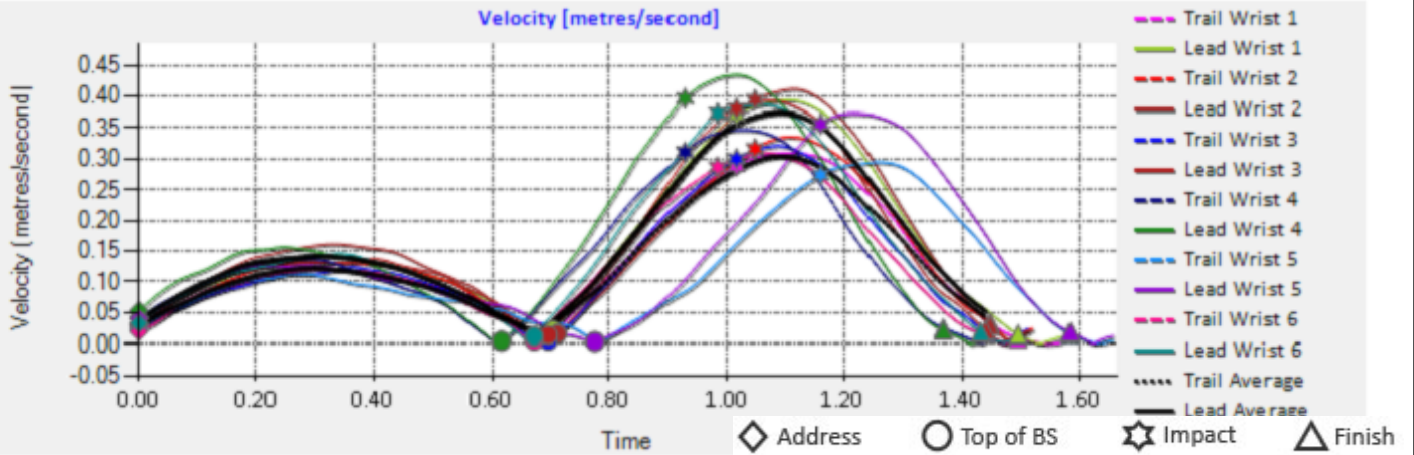


Distance of Elbows Relative to each other (cm)	Address	SD	Top of Backswing	SD	Impact	SD	Finish	SD
	38.21	0.44	37.50	0.42	38.21	0.40	38.50	0.38

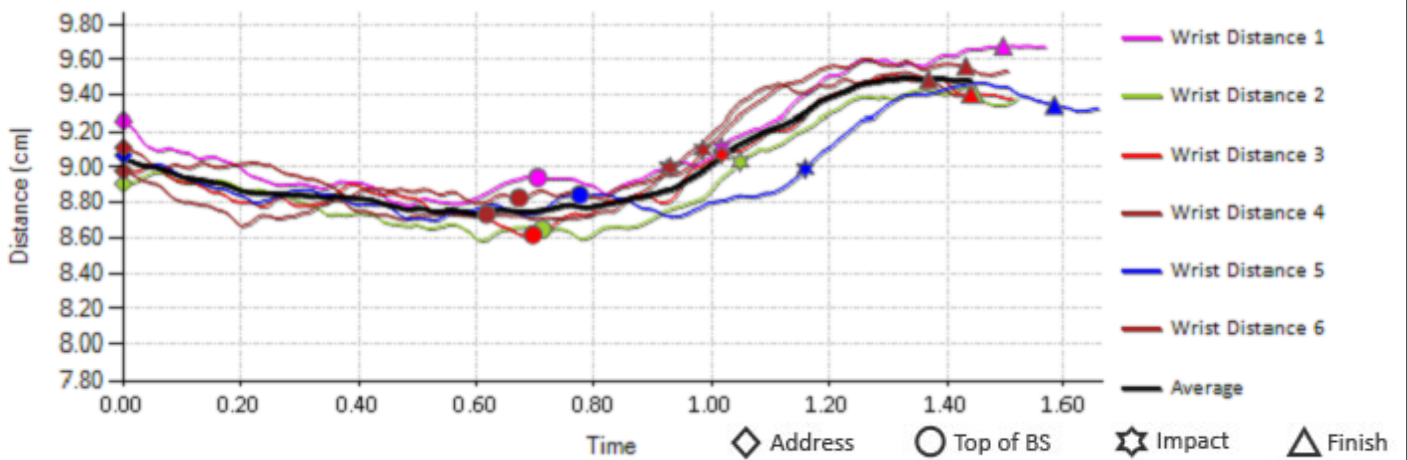


WRIST KINEMATICS

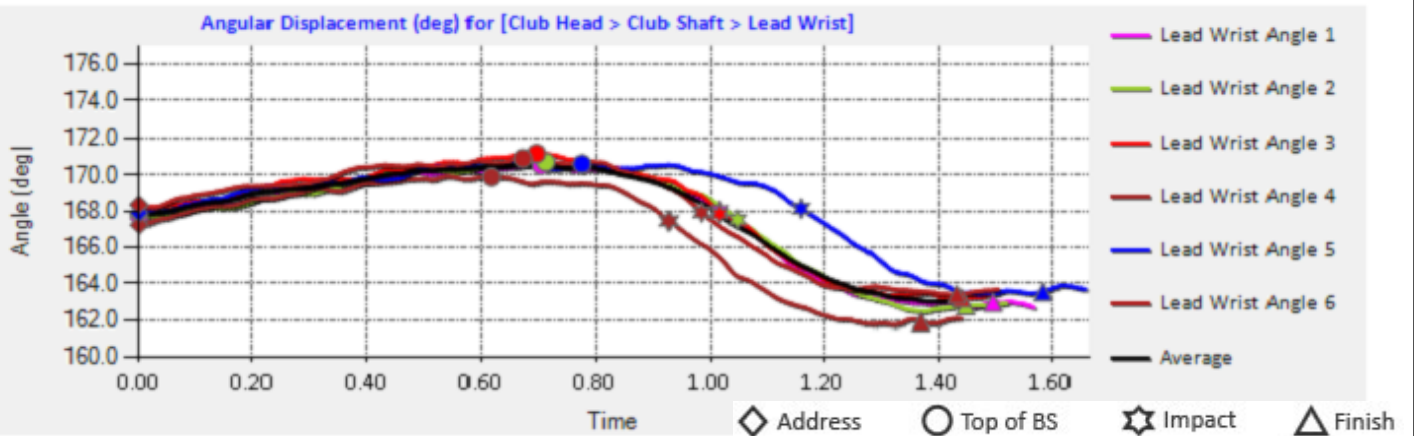
When Club Head at Maximum Velocity:	Lead Wrist Velocity	SD	Trail Wrist Velocity	SD
In the Backswing	0.14 m/s	0.01 m/s	0.12 m/s	0.01 m/s
<i>Percentage Attributable to each Wrist</i>	54 %	1 %	46 %	1 %
In the Downswing	0.37 m/s	0.01 m/s	0.29 m/s	0.01 m/s
<i>Percentage Attributable to each Wrist</i>	56 %	0 %	44 %	0 %
In the Throughswing	0.40 m/s	0.02 m/s	0.32 m/s	0.02 m/s
<i>Percentage Attributable to each Wrist</i>	56 %	0 %	44 %	0 %



Distance of Wrist Relative to each other (cm)	Address	SD	Top of Backswing	SD	Impact	SD	Finish	SD
	9.05	0.11	8.77	0.11	9.05	0.05	9.48	0.11

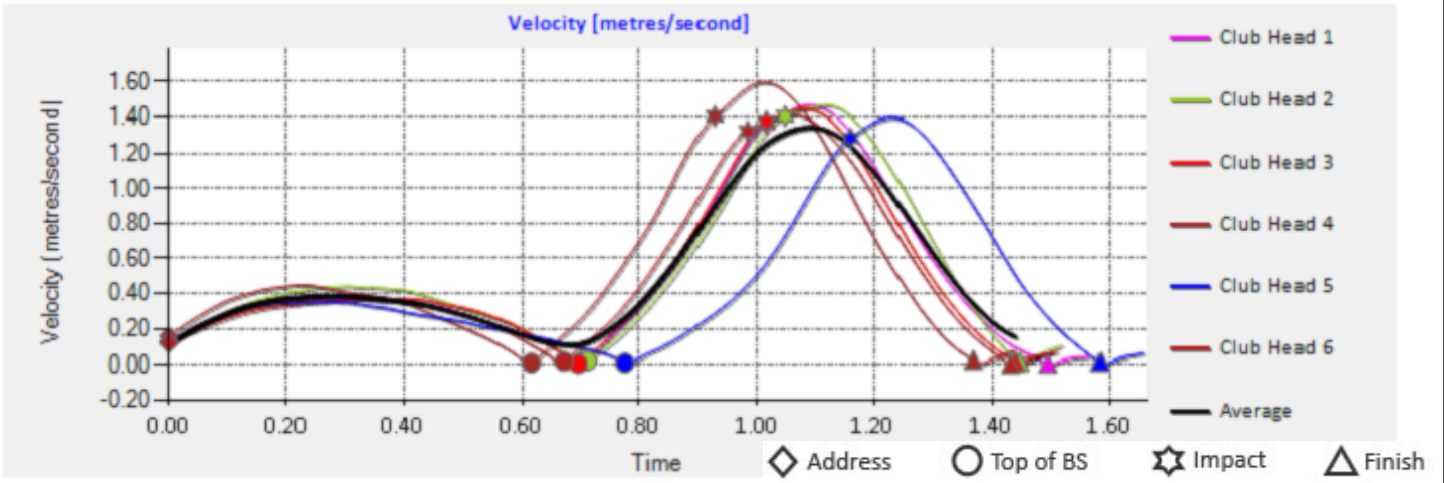


	Address	SD	Impact	SD	Difference
Lead Wrist Angle (degrees)	167.86°	0.39°	167.81°	0.25°	-0.05°



CLUB KINEMATICS

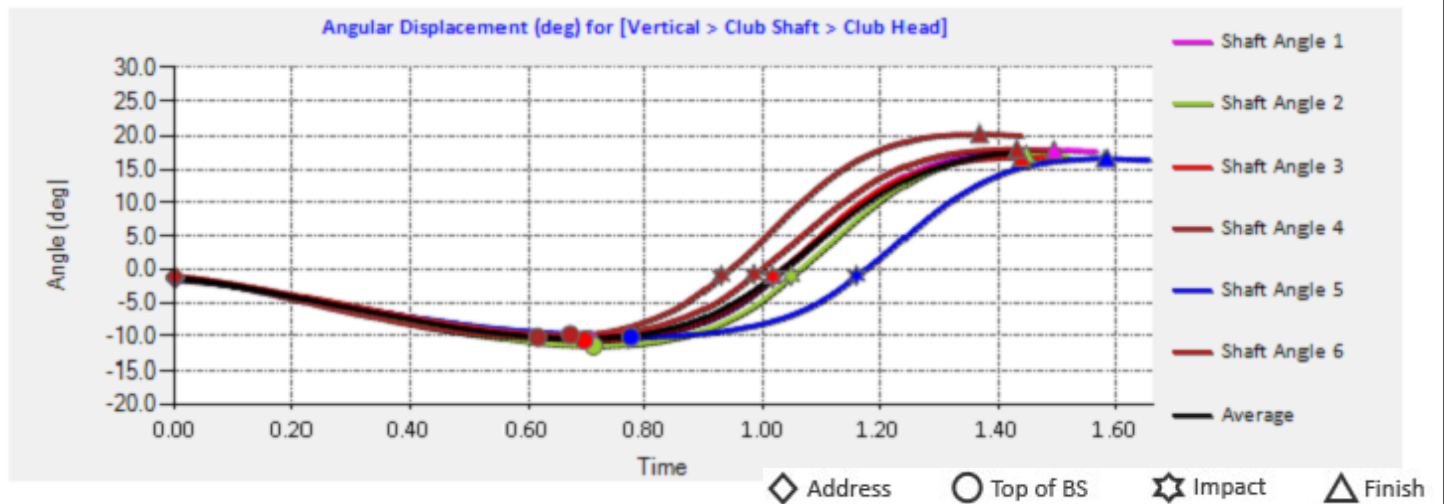
	Backswing	SD	Downswing	SD	Throughswing	SD
Maximum Velocity of Club (m/s)	0.40	0.04	1.32	0.05	1.47	0.06
Location of Club at Max. Velocity (m)	0.11 (Positive = After Impact, Negative = Before Impact)					



	Backswing	SD	Downswing	SD	Throughswing	SD
Path Length of Club Head (m)	0.20	0.01	0.18	0.01	0.38	0.02
Ratio of DS to TS (Length)	1 : 2.08 (Ratio 1 : 1 = DS and TS same length)					

Tempo (Time):		SD
Time of the Backswing (s)	0.69	0.05
Time of the Downswing (s)	0.33	0.03
Time of the Throughswing (s)	0.44	0.02
Ratio of BS to DS (Time)	1 : 0.48 (Ratio 1 : 0.5 = DS is half the time of the BS)	
Ratio of BS to DS + TS (Time)	1 : 1.11 (Ratio 1 : 1 = Same time BS as DS + TS)	

	Address	SD	Top of Backswing	SD	Impact	SD	Finish	SD
Shaft Angle (degrees)	-1.22°	0.17°	-10.44°	0.53°	-0.97°	0.20°	17.91°	1.22°



	5 Frames Pre Impact	5 Frames Post Impact
Attack Angle / Rise Angle of Club (degrees)	-0.45°	2.14°

ABOUT PLAYER