PalArch's Journal of Archaeology of Egypt / Egyptology

PRE-ROUND WARM UP ROUTINE: EFFECTS ON AVERAGE DRIVING DISTANCE, PUTTING STROKES AND REGULATIONS OF GOLFERS

Umar Farooq[1], ZubiaSavila[2], Dr. Noor Muhammad Marwat[3] , Dr. Ejaz Asghar[4], Muhammad Zubair[5], Khawar Ehsan[6], Habib Ullah[7]

[1]M.Phil. Scholar Isra Institute of Rehabilitation Science, Isra University Islamabad.

[2]Ph.D Scholar, Centre for Sports and Exercise Sciences, The University of Malaya, Kuala Lumpur, Malaysia.

[3]Department of Sport Sciences and Physical Education, Gomal University, Dera Ismail Khan (KP) Pakistan.

[4]Associate Professor. Isra Institute of Rehabilitation Science, Isra University Islamabad.

[5]Ph.D Scholar, Department of Physical Education & Sports Sciences University of Karachi.

[6]M.Phil. Scholar Isra Institute of Rehabilitation Science, Isra University Islamabad.

[7]M.Phil. Scholar Isra Institute of Rehabilitation Science, Isra University Islamabad.

Umar Farooq , ZubiaSavila , Dr. Noor Muhammad Marwat , Dr. Ejaz Asghar , Muhammad Zubair , Khawar Ehsan , Habib Ullah , Pre-Round Warm Up Routine: Effects On Average Driving Distance, Putting Strokes And Regulations Of Golfers , Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(10), 2772-2780. ISSN 1567-214x.

KEYWORDS: Warm up Routine, Average driving distance, Putting Strokes, Regulation, Effects, Golfers.

ABSTRACT:
Warm up is an act of preparing yourself for a physical activity. Every golfer performs a specific warm up routine to enhance performance and to prevent him self from injuries.The physical demands required by the body to perform a round of golf arehuge. Few hours before playing a round of golf has a great impact on performance. Evidence proves that different warm up protocols have a great influence on golfin ground.Currently there is no study conduct edu sing professional golfers to research effect of pre round warm up routine on performance so,therefore, the purpose of this research is to assess the effect of pre-round warm-up routineonthreedifferentcomponentsofperformancesuchasaveragedriving distance, putting strokes, and regulations amonggolfers. Twenty male golfers divided into two groups experimental and control participated. Experiment group performed proper pre-round warm up routine for three consecutive days. The results showed that the participants of experimental groupwhoperformedpreroundwarmuproutine,theiraveragedrivingdistance, green in regulation, fairway in regulation increased and putting strokes decreasedduetowhichtheperformanceimproved.

INTRODUCTION:
Golf is a technical sport focusing on strategies, tactics and skills, however, there is a growing recognition of the physical requirements of the game and a clear increase in the focus on arousal regulation. It is a sport in which player use different clubs to hit the ball into different holes present in a series in a course in as few strokes as possible. This game is usually played in a course with the arrangement of 18 holes however some courses can be smaller, often having nine holes. Warm-up is the act of exercising and stretching in preparation of a body for strenuous activity. It is performed before training or practice and helps the athlete's body to prepare itself for physical activity and reduces chance of injury.Pre round warm up routine is a practice session before actual round of golf which includes putting, chipping, bunker shots and range session. To access speed and firmness of greens. Range session which fully prepares golfer to make their best swing for the opening tee shot. A pre round warm up routine is key to have a peak performance in golf. The small difference between good round and a great round is often called pre round warm-up routine. In this regard, the Preroundwarmuproutinemakeyouconfident before yourroundand to find out what type of swing you have going into theday.

OBJECTIVE OF THESTUDY:
To evaluate effect of pre-round, warm up routine on average driving distance, putting strokes and regulations ofgolfers.

LITERATURE REVIEW:
In a Study done in **2004** [1] an approach was made to determine whether a golf-specific warm-up routine improved performance. 20 golfers were matched according to age (2 years), gender, and handicap (1). Ten golfers from a control group, with the other 10 from the exercise group. Golfers from the exercise group performed specific warm-up accompanying 10 strokes 5 times a week for 5 weeks. In the first week 20 golfers performed 10 strokes. In week 1-2 exercise group performed a specific warm-up immediately before 10 strokes and improved their average club speed by 3-6 m/s (12. 8%). In week 2-7 golfers increased their average club speed by 7-10 m/s. Average club Speed for the control group was measured in 1,2 and 7 weeks which was near to the baseline and resulted in average club speed by 1.7m/s (24.0%).In year **2011** [2] research was done on the useof whole-body vibration as a golf warm up. The purpose of this research was to check the efficiency of an

activewarm-upforrecreationalgolfersusingawhole- body vibration (WBV) platform. Flexibility, golf performance and the power are the variables for the test of warm up.

In this research ten adult men having age (45 ± 15 yr.) participated voluntarily to perform personal warm up and then to record their 7 golf swings. After this they participated in active warm-up involving flexibility exercises on the iTonic WBV platform and then recorded 7 more golf swings. The frequency for iTonic WBV was 50 Hz and the amplitude was 2mm. the time duration for each exercise was 30 sec. the number of exercises they perform are 8. The result shows that in the group having age less than 45 both the power and flexibility improves significantly. In the age group greater than 45powermeasuredidnotimprovebutdidimprovesit and reach similarly to the younger group. This research shows reflective increase in the flexibility and power output of discrete golfers occurs when a WBV warm-up bout isperformed.In a study done in **2012** [3] was to evaluate the effects of different warm-up programs on golf performance in elite male golfers by recording maximum club head speed, maximal drivingdistance, driving accuracy, smash factor and consistent ball strike.Fifteen male golfers participated with age between 18-40 within three different warm-up programs non-consecutive days which include Active Dynamicwarm-upprogram (AD),activedynamic,and functional resistance (FR) warm-up, active dynamic with weights warm-up (WT).

After each warm-up program participants hit ten maximal drives. The result of this research approves that statistically significant ($p<0.05$) improvements occurred in three factors such as maximal driving distance, consistent ball strike, smash factor. There is no statistically significantdifferencebetweenanyofthewarm-upsfor maximum club head speed (MCHS) and driving accuracy(DA).In a study done in **2015** [4] was to evaluate the effects of different warm-up protocols in recreational golfers on immediate golf performance of a maximal golf drive by measuring maximum club head speed (MCHS), maximal driving distance (MDD), and smash factor (SF). Total 17 participants including females 6 and males 11 with age between 18-65. Golfers who play eight rounds of golf a year with an average score between 80-140 strokes in 18 holes are considered recreational golfers. The performance factor was analyzing through Flight Scope. Three different warm-up protocols were used 1. No Warm-Up 2. Active Dynamic warm-up 3. Functional resistance Thera band. The result of this research indicates that there are no significant effects of different warm-up protocols on a recreational golfer.In a study done in **2016** [5] an approach wasmade to determine the influence of dynamic and static stretching on golf driving performance. Driving performance was determined by three components which include carrying distance, accuracy, and ball contact.

Twelve golfers participated in this study. Every golfer randomly participated in static and dynamic stretching. Result of this research indicate that dynamic stretching can increase driving distance andaccuracyascomparedtostaticstretchingbutthere is no significant difference between club contact between dynamic and staticstretching.Inyear**2018**[6]researchisdoneontheimpactof warm up on youth golfers club head speed and self- reported shot quality.The main purpose of this study was to examine and determine the impact of dynamic exercise routine followed by club warm up on club head speed and self-reported shot quality. In this research 8 male and 13 female golfers contribute which was divided into no warm up, club only warm up and exercise based dynamic warm up. the time intervalforresearchwasthreeconsecutivedays.They use counterbalanced repeated measure design. Ineach session, players are asked to hit 10 maximal effort shots with club head and driver. Speed was recorded

usingalaunchmonitorandalsowithself-reportedshot quality. The result shows that there is statistically significant improvement in club head speed and self- reported short quality were seen in dynamic and club warm up. This research concludes that the mixtureof dynamic and club warm up improves club head speed in youth golfer.

METHODOLOGY:

InthisresearchRCT(RandomizedControlTrial)wasused. The research was conducted in Islamabad Golf Club (IGC). Twentymalegolfersparticipatedinthisresearch.Thegolfersage ranged from 20 to 60 years. All the participants were divided by using lottery method into experimental and control group. Lottery method is the oldest methodofrandomizedsampling.Researchers drewnumbersfromtheboxrandomlyto choose the group of eachplayer.

RESEARCH HYPOTHESIS:

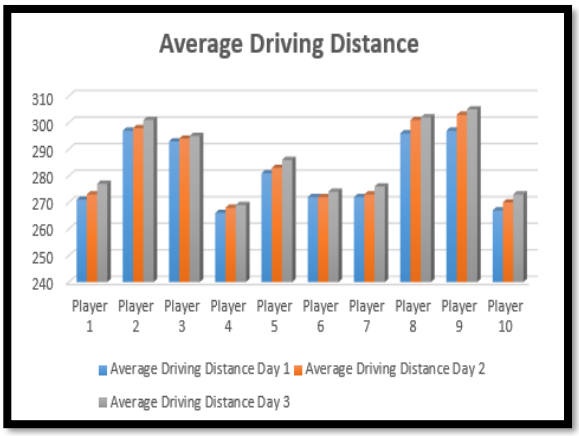
It is predicted that pre-round warmup routine will have significant effect on average driving distance, putting strokes, and regulations of golfers.

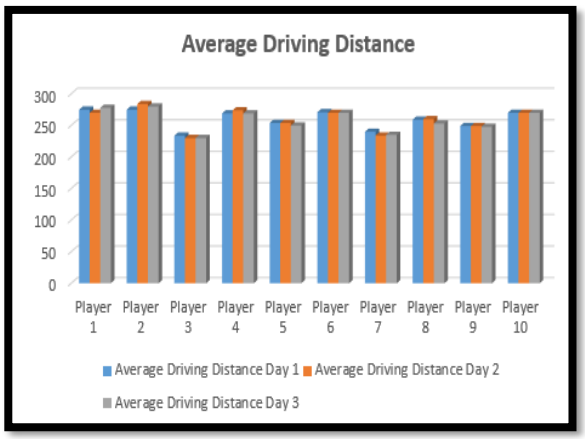
RESULTS:

Twenty male golfers were divided into two groups. Ten players were in experimental and ten in control group. Players of experimental group performed pre round warmup routine daily while control group player did not follow pre round warmup routine. The duration of experiment was 3 days. Data was collected on daily basis from eachgolferaboutputtingstroke,fairwayinregulation, green in regulation and average drivingdistance.ThecomparisonofeachplayerforADD,PS,GIRand FIR was observed separately. The result shown increase in ADD, GIR and FIR and decrease inPS.

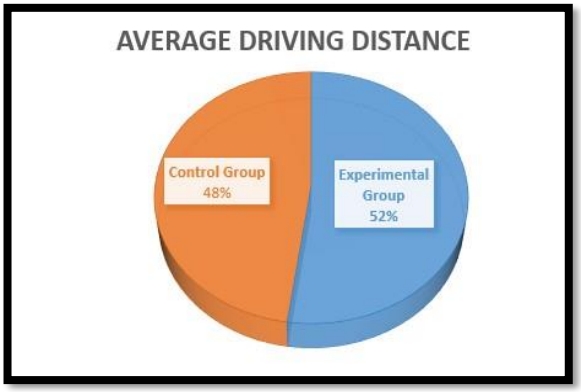
AVERAGE DRIVING DISTANCE OF BOTH GROUPS

Experimental GroupControl Group





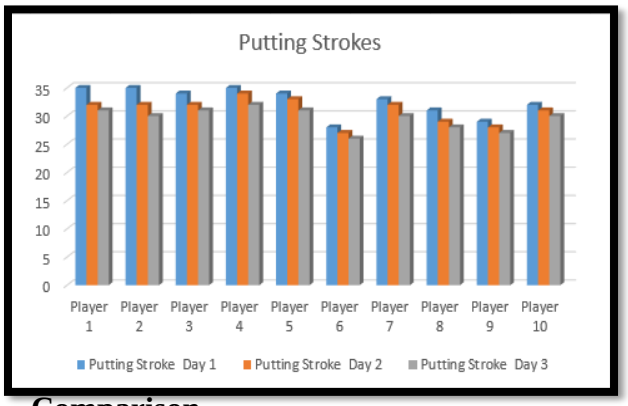
Comparison



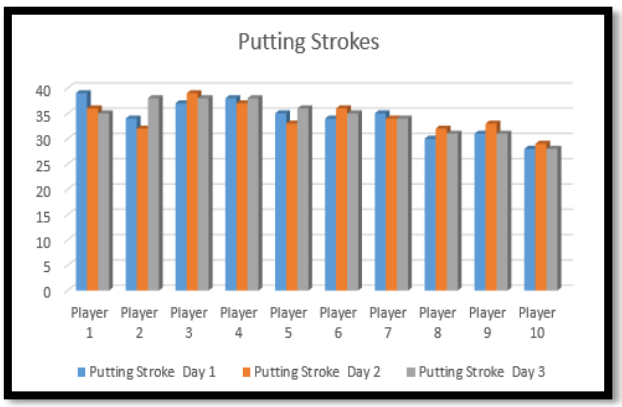
In experimental group for each player average driving distance is increasing day by day by practicing pre round golf warm up routine. Increase in average driving distance improves the performance of the golfer. In control group for most of the player average driving distance remains constant without any increase. Results shows that experimental group players covered more distance than control group players. Their average driving distance increased 4% from control group players.

PUTTING STROKE OF BOTH GROUPS

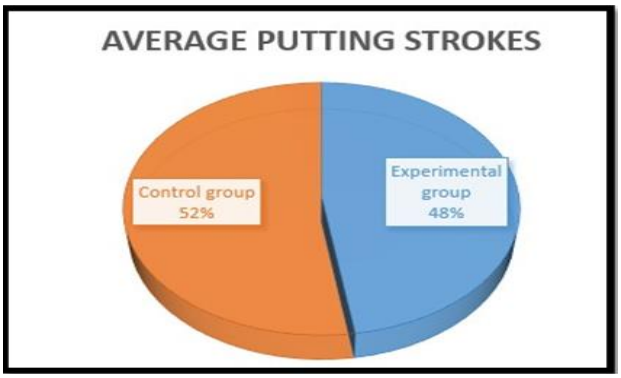
Experimental Group



Control Group



Comparison

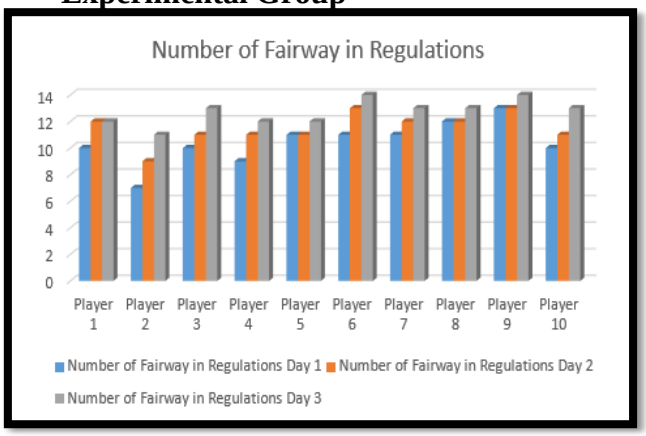


The result shows that for each player putting strokes are decreasing day by day by practicing pre round golf warm up routine. Decrease in putting strokes improves the performance of the golfer. In control group result shows that there is no increase or decrease continuous trend. The values remain increase and decrease randomly.

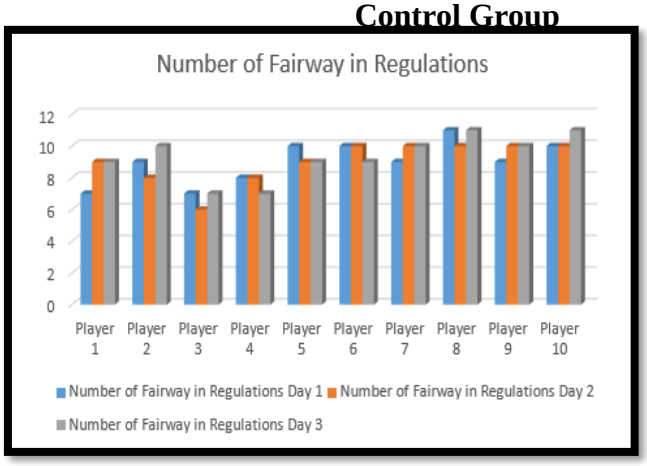
Results shows that experimental group players average putting stroke are less than control group players. Their putting strokes decreases

FAIRWAY IN REGULATION OF BOTH GROUPS

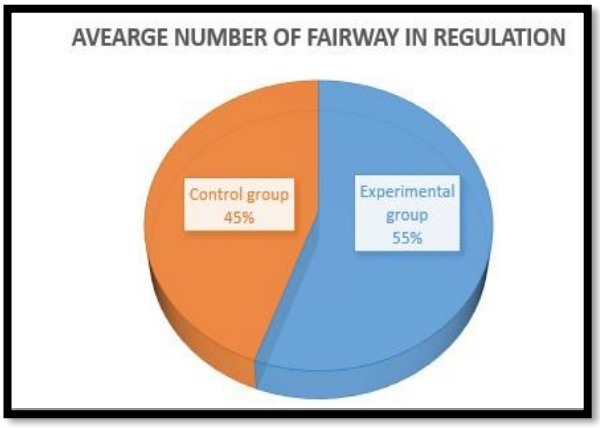
Experimental Group



Control Group



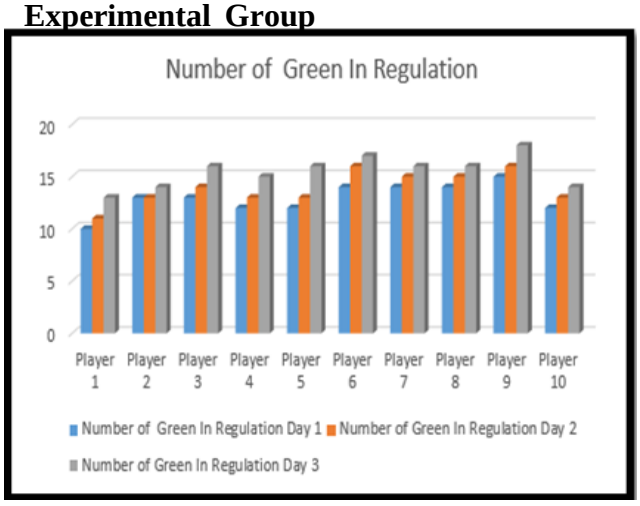
Comparison



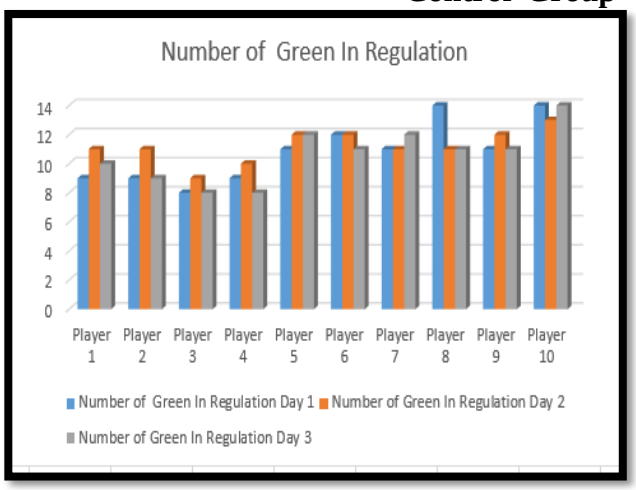
Experimental result shows that for each player number of fairways in regulation is increasing day by day by practicing pre round golf warm up routine. Increase in fairway in regulation improves the performance of the golfer. Control group result shows that there is no increase or decrease continuous trend. The values remain increase and decrease randomly. Results shows that experimental group players average number of fairways are more than control group players. Their average number of green in regulation increased 10% than control group.

GREEN IN REGULATION OF BOTH GROUPS

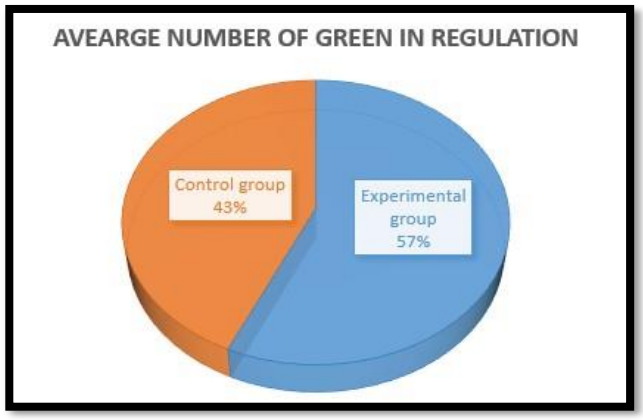
Experimental Group



Control Group



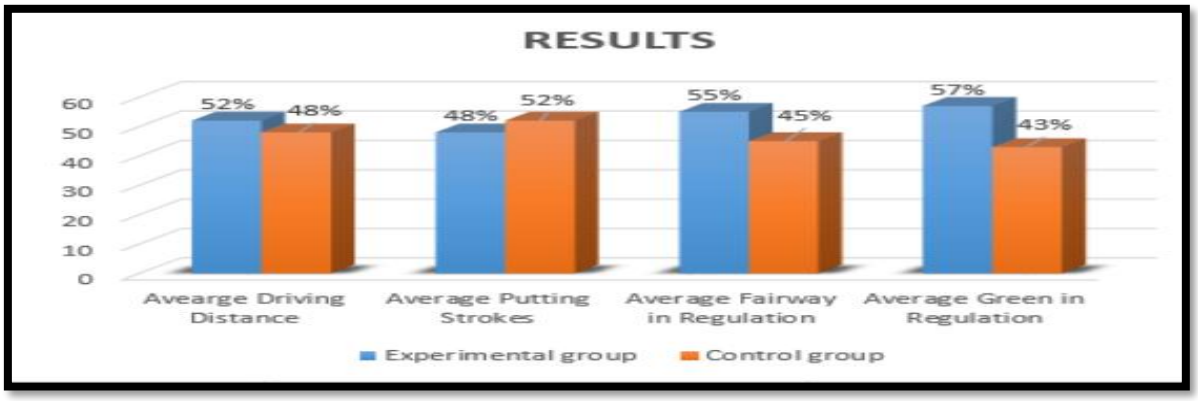
Comparison



Experimental group result shows that for each player average number of green in regulation is increasing day by day by practicing pre round golf warm up routine. Increase in green in regulation improves the performance of the golfer. Control group result shows that there is no increase or decrease continuous trend. Results shows that experimental group players average number of green in regulation more than control group players. Their average number of green in regulation increased 14 % from control group players.

Average driving distance, putting strokes, green in regulation and fairway in regulation play an important role in the performance of golfer. From the above results its concluded that pre round warm up routine increases average driving distance, fairway in regulation, green in regulation and decreases in puttingstrokes.

Group	Average Driving Distance	Average Putting Strokes	Average Number Of Fairway In Regulation	Average Number Of Green In Regulation
Experimental Group	2831 yd.	308	112	138
Control Group	2589 yd.	340	90	105



Player who performed pre round warm up routine increased their average driving distance 4%, fairway in regulation 10%, green in regulation 14 % and decreases in putting strokes 4% which therefore increase the performance.

While the players who does not follow up pre round warm up routine they do not have trend to increase or decrease performance and few remains static in their performance. So our hypothesis is accepted

N=20	Control Group	Experimental Group	P- Value
Average Driving Distance	258.9 ± 15.76	283.1 ± 13.05	0.002
Putting Strokes	34 ± 3.09	30.8 ± 2.04	0.01
Fairway in Regulation	10.5 ± 1.13	13.8 ± 1.13	0.003
Green in Regulation	9 ± 1.47	11.2 ± 1.47	0.00

Results of research proved that statistically significant ($P<0.05$) improvement was observed in four components of performance.

DISCUSSION:

The purpose of this study was to compare the effects of pre round warmup routine on average driving distance, putting strokes, fairway in regulation and green in regulation among the professional golfers. To date this is the only study that evaluate effect of pre-round, warm up routine on average driving distance, putting strokes and regulations among golfers. We use RCT method. 20 male golfers participated. Participants are equally divided into control and experimental group. The players of experimental group perform pre round warm up routine for 3 consecutive days. Results of this study reveals that in comparison to control group the performance of experimental group was better. The average driving

distance of experimental group is 4% better than control group. Similarly, the performance of putting strokes increase by 4%, fairway in regulation by 10% and green in regulation by14%. Pre-round warm up routine has influence on average driving distance, putting strokes and regulations among golfers. Result shows that players who follow pre round warm up routine their Average driving distance, Fairway in regulation and Green in regulation increases while putting strokes decreases which therefore increase the performance. While the players who does not follow up pre round warm up routine their performance does not have any proper trend of increase or decrease. Withauseofpreroundwarmuproutinewithinresearchitisdifficulttocompare results with previous studies. All the previous studies were conducted on warm up routine.

An approach was made to determine whether a golf-specific warm-up programimprovedperformance.Resultshowsthatexercisedgroupinweek1- 2 exercise group improved their average club speed by 3-6 m/s. In week 2-7 golfersincreasedtheiraverageclubspeedby7-10m/s.WhileaverageclubSpeed for the control group was measured in 1, 2 and 7 weeks which was near to the baseline and resulted in average club speed by 1.7m/s[4].

The purpose of research conducted in 2011 was to check the efficiency of an active warm-up for recreational golfers using a whole-body vibration (WBV) platform. Flexibility, golf performance and the power are the variables for the test of warm up. The result shows both the power and flexibility improve significantly when whole-body vibration platform is used as warm up in golf [8].

Another research was done in 2012 to evaluate the effects of different warm-upprogramsongolfperformanceinelitemalegolfersbyrecordingmaximumclub head speed, maximal driving distance, driving accuracy, smash factor and consistent ball strike. Result shows that improvements occurred in three factors such as maximal driving distance, consistent ball strike, and smash factor. There isnostatisticallysignificantdifferencebetweenanyofthewarm-upsformaximum club head speed (MCHS) and driving accuracy (DA)[9].

In 2015, research was done to evaluate the effects of different warm-up protocols in recreational golfers on immediate golf performance of a maximal golf drivebymeasuringmaximumclubheadspeed(MCHS),maximaldrivingdistance (MDD), and smash factor (SF). The result of this research indicates that there are no significant effects of different warm-up protocols on a recreational golfer[10].

In 2016, an approach was made to determine the influence of dynamic and static stretching on golf driving performance by three components which include carrying distance, accuracy, and ball contact. Result of this research indicate that dynamic stretching can increase driving distance and accuracy as compared to staticstretchingbutthereisnosignificantdifferencebetweenclubcontactbetween dynamic and staticstretching [11].

CONCLUSION & SUGGESTIONS:

Preroundwarmuproutineisthekeytohaveagoodperformanceingolf. It prepares golfer to make their best swing for the opening of tee shot. In this researchwechecktheeffectofpreroundwarmuproutineonaveragedriving distance, putting strokes and regulations. The result shows that people who performed pre round warm up routine their ADD, Regulations increases and PS decreases which really improves the performance of the golfer. Whereas players who does not follow up pre round warm up routine their performance does not have any trend. Their performance randomly increases and decrease.

In future, this research can be improved by comparing the effect of pre round warm up routine in male and female golfers. Moreover, effect on different age group will also be an area of future research.

It can also be enhanced by conducting the same experiment for amateur golfers.

RECOMMENDATION:

The results show that people who perform pre round warm up routine their average driving distance and regulation increase while putting strokes decreases. All these factors play an important role in performance of golfer. The result shows players who perform pre round warm up routine their performance increases and remain stable as compare to those who does not follow up this routine.

It is recommended for all golfers to follow pre round warm up routine daily before round of golf. It not only improves their performance but also make them confident before their actual round and they will find out what type of swing they will have going into the day. Pre round warm up give a sense of green that how the greens are rolling and it helps players to build confidence by seeing the ball going to hole.

REFERENCES:

[1]https://en.wikipedia.org/wiki/Warming_up.
[2]https://www.britannica.com/sports/golf
[3]https://pubmed.ncbi.nlm.nih.gov/23936749/
[4]A J Fradkin, C A Sherman, C F Finch “Improving golf performance with a warm up conditioning programme” Br J Sports Med 2004;38:762–765. doi: 10.1136/bjsm.2003.009399.
[5]https://en.wikipedia.org/wiki/Golf#Origin_and_history
[6]https://www.capitalclinicphysio.com.au/_heat_up_your_golf_swing/
[7]A J Fradkin, C A Sherman, C F Finch “Improving golf performance with a warm up conditioning programme” Br J Sports Med 2004;38:762–765. doi: 10.1136/bjsm.2003.009399.
[8] Bunker, Derek J; Rhea, Matthew R; Simons, Ted; Marin, Pedro J The Use of Whole-Body Vibration as a Golf Warm-Up, Journal of Strength and Conditioning Research: February 2011 - Volume 25 - Issue 2 - p 293-297 doi: 10.1519/JSC.0b013e3181bff5a1
[9] Nigel R. Tilley and Alison Macfarlane "Effect of Different warm up program on golf performance in Elite Male Golfers” Int J Sports Phys Ther. 2012 Aug; 7(4): 388–395.
[10] Travis, Emily, "Different warm up protocols on immediate golf drive performance in recreational golfers" (2015). EWU Masters Thesis Collection. 315.
[11] Graeme G. Sorbie1 , Julien S. Baker1 , Yaodong Gu2 and U. Chris Ugbolue” The Effect of Dynamic and Static Stretching on Golf Driving Performance” Sorbie et al. Int J Sports Exerc Med 2016, 2:03.