

# Margin of Error

## By Macka Jensen

**Introduction:** In lawn bowls the coach is often required to determine the major problem in the player's delivery skill; or be asked "Is the player improving?" "Is the player consistent enough to play in the team or side?" "How can he or she improve their delivery skill when delivering to the edge of the ditch or the side of the rink? The answers to these questions and problems are made much easier when the coach combines the player's margin of error with his own visual observations.

**Definition:** The definition of a margin of error is; "The size of the pattern formed on the green surface by a series of 8 drawn bowls delivered by the bowler under a controlled delivery skills practice e.g. 4 on the forehand and 4 on the backhand all to a medium end".

**The Procedure:** The determination of a player's margin of error is conducted under a controlled delivery practice without the use of the jack. This is carried out in four stages as follows;

**Stage 1 Preparation:** The coach should set up two rinks side by side, one for the forehand and the other for the backhand. This is done with the following layout and equipment;

- Two mats, one for each opposite rink set on the two metre mark,
- Two distinguishable sized red coloured markers or flags, one for each opposite rink, the first one set for the forehand delivery and the second set for the backhand delivery, both markers/flags are set on the opposite bank with an aiming line angle that allows the bowls when delivered to come to rest approximately on the centre line at a medium length.
- Four white flat plastic discs markers about 30 to 40cm in circumference with a thin 1andhalf inch flat head nail through its centre to secure them to the green surface. These discs should be also numbered 1 to 4 to indicate the rest position of the first, second, third and fourth bowl for margin of error measurement.
- A measuring tape is required to measure the width and length of the margin of error. Measurements should only be approximate and given in metres and points of metres as applicable. Precise fractions of millimetres and centimetres are not required.

**Stage 2 Procedural rules:** When conducting this controlled delivery skills practice it is advisable to adhere to following procedural rules as follows;

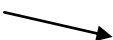

- Overall the purpose of this practice is to define the player's precision in alignment, judgement of length, and to establish the bowler's standard play.

- The bowler should have a trial run of the required exercise, or at least have a role up of two ends to tone up the performer's physical and mental attributes,
- The following should be explained to the bowler; the definition of the margin of error, the controlled skill practice and rules that must be strictly adhered to throughout the whole procedure e.g. This is a controlled draw skills practice, in which you are required to deliver 8 bowls to a medium end, on the first rink, 4 bowls on the forehand and on the second rink, 4 bowls on the backhand. As each draw bowl comes to rest its position will be marked and then removed to one side for you to play your next bowl.
- If you are a left handed bowler you will on the first rink play 4 bowls on the backhand and then on the second rink 4 bowls on the forehand. The same rules and procedure will apply,
- On both rinks your aiming line is the red marker/flag and are positioned so that the bias will bring your bowl to rest on or about the centre of the rink at a medium end,
- During the practice you will not make any corrections, you are required to use the same delivery weight, rhythm, technique, and the same delivery angle, in plain words each delivery must be the same. If you should accidentally make a correction or an uncontrolled error in your delivery technique e.g. loss of balance, drop a bowl or deliver a wobbled bowl, that delivered bowl must be declared null and void and you are required to deliver that bowl again. The declared bowl is not included in the analysis,
- On completion of each bowl the coach records its position on a graph piece of paper both the forehand and backhand draw shots, both patterns will be measured to calculate your margin of error.
- On completion, each pattern will be analysed to find your major problem in your delivery,
- Using the same procedure again, it will be explained how to correct the main delivery error e.g. alignment and/or length.

**Stage 3 Forehand deliveries:** The third stage is to have the bowler deliver a series of four bowls on the forehand to a medium end using the same alignment, length and technique. If the player makes an accidental correction or an uncontrolled error etc, the bowler must declare the bowl and it should be stopped before it reaches the head, and then returned to be delivered again. On completion of the four bowls the pattern is recorded and measured first by the width and then by the length, see **Fig 2** 1 by 3 metres.

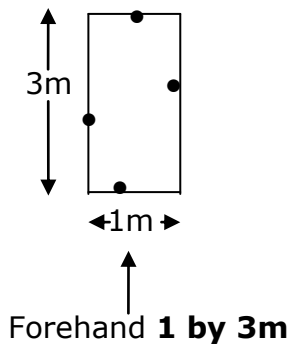
**Stage 4 Backhand deliveries:** The same controlled practice is then carried out again on the backhand e.g. see an example **Fig 3** 2 by 2.5 metres. Both measurements are then calculated to be 1.5 by 2.7 this is done as follows see **Fig 1**;

**Fig 1**

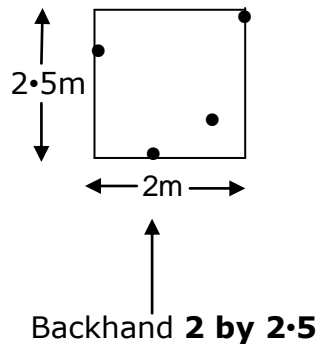
Both widths:  $1\text{m} + 2\text{m} = 3\text{m} \div 2 = 1.5$   MOE 1.5 by 2.7  
 Both lengths:  $3\text{m} + 2.5\text{m} = 5.5 \div 2 = 2.7$  

**Average MOE:** The player's bowls will come to rest anywhere within the bounds of the area shown below in **Fig 4**, this measurement being the player's margin of error on that day; at that time, with that green speed, and with that particular set of bowls. It should be noted that under to-days standards of play, that 1.5 by 2.7 metres is about the average club player's MOE. I might add that there are some exceptions to this rule but generally this average conforms to most clubs players.

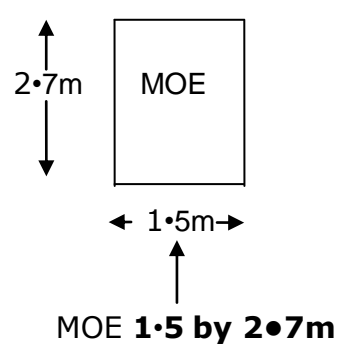
**Fig 2**



**Fig 3**



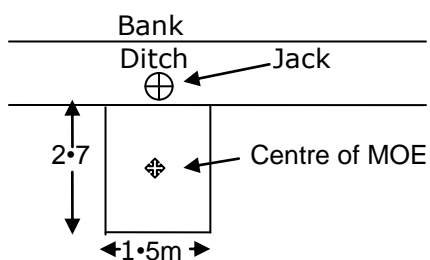
**Fig 4**



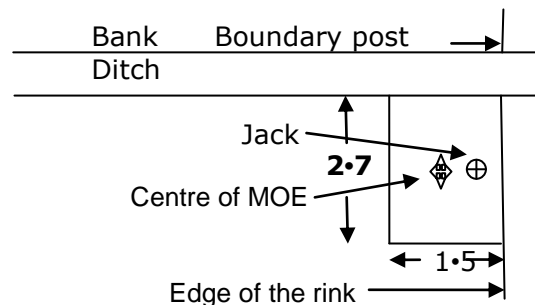
**Calculating the Margin of error for the shots:** To calculate the margin of error for playing on shots; running shot and drive. Just simply halve the width measurement. Using the figures from the above paragraph the margin for these shots would be 1.5 divided by 2 = .7 metres.

**Delivering to the ditch edge or side of rink:** This procedure involves the imaginary placement of the top of the margin of error on the edge of the ditch, or side of the margin of error against the side of the rink boundary and drawing to the centre of the margin of error as shown in **Fig 5** to the ditch, or the side of rink boundary as in **Fig 6**. This avoids losing bowls into the ditch or out of bounds.

**Fig 5**



**Fig 6**



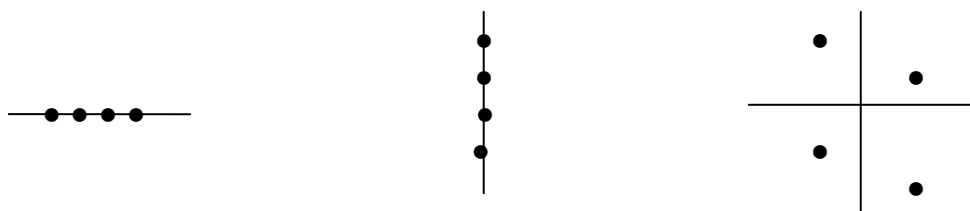
**Green surface:** Using this procedure a larger percentage of bowls will form in the forward area of the margin of error. The reason is that the green surface from the ditch back to the two metre mark is compacted much firmer than other surface areas of the green and bowls tend to run a little further than normal.

**Grading players:** Margin of error is a good method to use for early or primary grading players for selection of pennants teams. The operative words being early or primary, it will at least form the main structure of the teams and sides. This is done by obtaining the margin of error of each player and compiling these statistics into different sized divisions as follows; the smaller sized margin of error to the higher grades and the larger sizes to the lower grades.

**Warning:** This is not designed to select the playing positions of team members, nor the psychological skills of the lawn bowler. These areas should be assessed during competitive trial games prior to the actual competition.

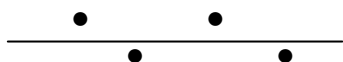
**The theory of margin of error:** To achieve the maxim use of margin of error you must understand the basic theory of the patterns of bowls formed. If you could visualise in your mind two main patterns that could form, one being a width pattern and the other a length pattern as illustrated below in **Fig 7** and **Fig 8** but because of human error the patterns seen on the green are not perfect, as illustrated in **Fig 9**. To illustrate this further; form a cross pattern using the lines from in **Fig 7** and **Fig 8** over the centre point of **Fig 9**. From this cross pattern we can now determine a performer's main problem in their delivery skill e.g. the horizontal line being the width of the alignment and the perpendicular line the length of the length pattern e.g. If the cross lines are wider or longer than one metre it is considered a major error.

**Fig 7** Width pattern    **Fig 8** Length pattern    **Fig 9** Cross pattern



**Analysing the error:** The general policy is to correct the major error if it is found to be larger than 1 by 1 metre in the cross pattern of the margin of error.

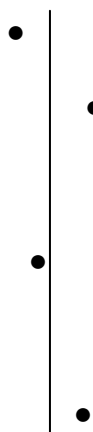
## Alignment:



## Some probable causes

- Blinking the eyes moves the perception of the aiming point alignment as much as 2 metres to the left or right depending on which is the dominate eye,
- Poor alignment of the eye, hand and aiming point,
- Not looking, stepping and swinging towards the aiming point,
- The delivery arm crossing the line of sight,
- The delivery arm rising above the culminating point 30cm below the line of sight.

## Length:



## Some probable cause

- Pushing the bowl in the forward swing e.g. short backswing with a long forward swing. Note: The length of the delivery is in the power of the backswing.
- Poor timing of the pendulum swing e.g. slow backswing with a rapid forward swing. Note: it should be same speed back same speed forward,
- Failing to coordinate; stepping, bending and swinging simultaneously at the beginning of the delivery e.g. lack of coordination reduces the power of the delivery,
- Failing to slightly lower the delivery arm shoulder to support the power of the pendulum action.
- Stiff arm delivery action. Note: The delivery arm should be relaxed to give maximum power.

**Identifying improvement:** Margin of error is one sure way to identify whether lawn bowlers have improved their bowling performance. This is easily ratified by the lawn bowls coach establishing their margin of error as follows;

- For new bowlers, establish and record their margin of error at the completion of each coaching session,
- For new experienced bowlers, establish and record their margin of error before commencing any coaching and at the completion of the coaching session re-establish and record their new margin

of error. On their return to your coaching it is then only necessary to re-establish it at the end of each session.

**Note:** After each coaching session, comparing whether the margin of error has reduced in size or remained the same, testifies to the coach that what has been taught has been effective or non-effective to the bowlers performance,

### **Do's and Don'ts**

- Don't use the jack during this practice because the performer is apt to making corrections from the jack and this contravenes the whole object of controlled delivery skill practice,
- Give each bowler a trial run of the procedure,
- The coach must indicate the delivery angle by the use of an obvious flag or marker. Its location does not have to be exact so long as the bowls come to rest on the rink being used. Note: If the performers select their own delivery angle they are apt to forget where it was, or make their own corrections. If coaches indicate the delivery angle they will restrict any corrections being made during the practice that could disrupt any previous observations,
- Check that the bowls used are all from the same set,
- Use a medium end for this practice. Note: this ensures a good balance of the player's ability or faults that may occur,
- Avoid windy days. Note: these conditions tempt the player to make inappropriate corrections to the delivery, or the wind may inevitably alter their alignment and length,
- Use both stages of the forehand and backhand. Note: this enables the coach to make an all round observation of the player's delivery skill,
- Use both rinks by rotating up one and down the other.