



# **Lawn Bowls Association of Hong Kong, China**

## **Coaching Manual**

**2024 Edition**

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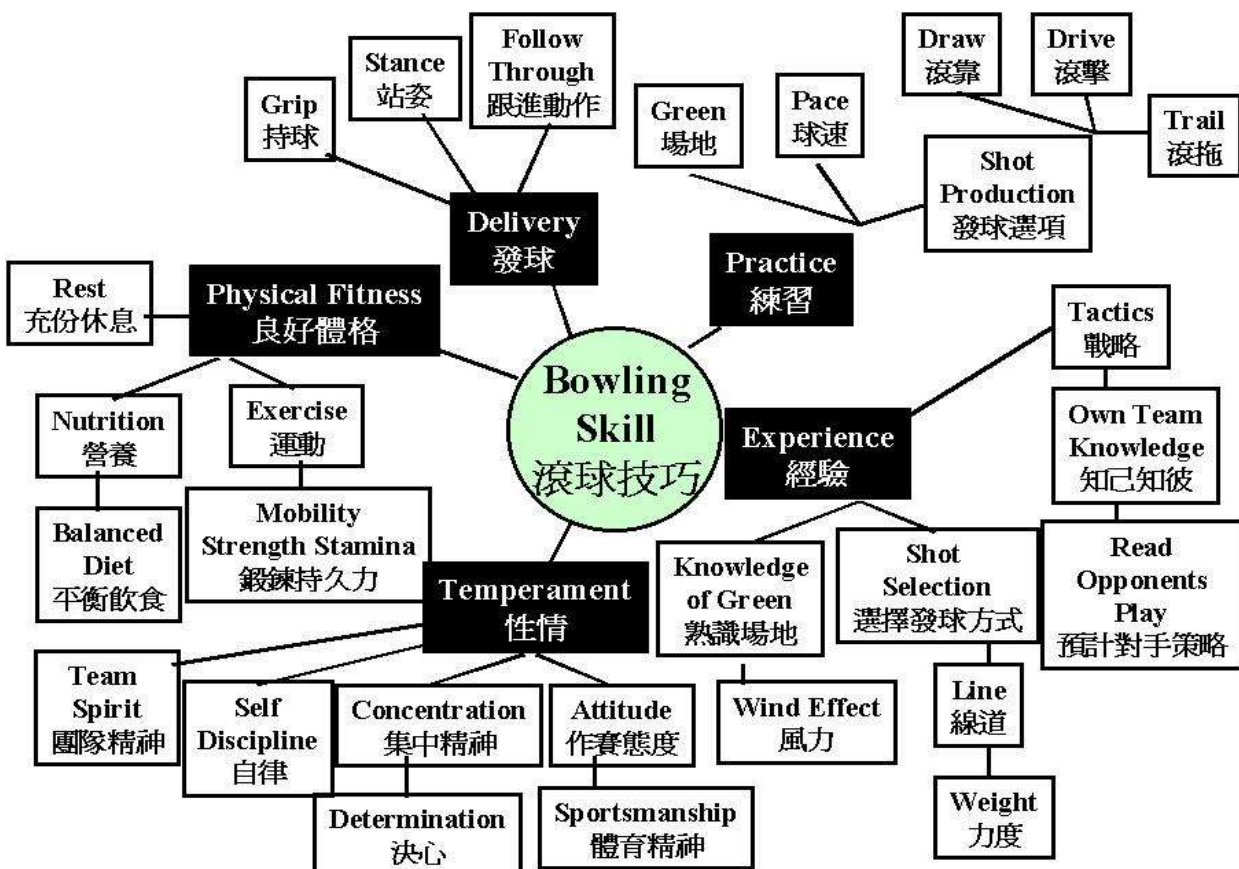
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## RESPONSIBILITIES OF THE COACH

Any one who accepts a coaching position whether purely voluntary or as a professional, has a responsibility to provide their athletes the utmost care. This includes:

- Provide a safe environment
- Activities must be adequately planned
- Athletes must be evaluated for injury and incapacity
- Athletes must be warned of the inherent risks of the sport
- Activities must be closely supervised
- Coaches should know First Aid
- Develop clear written rules for training and general conduct
- Coaches should keep adequate records.

All coaches must read the relative chapters.



## **FUNDAMENTALS OF COACHING AND GOOD INSTRUCTION**

### **Care for our players and watch over them**

A coach's duty does not cease after the initial teaching of a new bowler. They should be responsible for the ongoing bowling education of the people they teach and arrange for them to come back for tuition in the finer points such as Tactics, Head Building, the Shots of the Game etc. Players should be made aware of the coach's availability to them if any problems develop in their game. It is important that coaches keep an eye on –players and suggest that they return for coaching to eliminate any problem.

### **Practice what we teach**

A coach should endeavour to “practice what they teach”, if they don't, they will never develop credibility. If coaches don't demonstrate faith in the things that they teach, they can hardly expect their players to have faith in them.

### **Ensure that no players are injured**

Ensure that the environment in which tuition takes place is safe and that all equipment used is in a good and safe condition. The coach also has a responsibility to ensure the players they teach are aware of any dangers which may arise from improper use of equipment. They must satisfy themselves as to the physical condition of the people they teach and be aware of any physical problems which may affect the way in which they coach individual players. (See Safety and Risk Management)

## **THE ROLE OF A BOWLS COACH**

The Role of the Coach can be a very satisfying one and is not confined to giving technical information. The Coach must also interact with many different personalities and groups and have a good relationship with the players. An understanding of the coach's role will assist in the quality of coaching applied and improve and strengthen coaching performance.



## C.O.M.E.L.E.O.

### Communication:

Communication is a two-way street Coaches should be able to:

- Provide and accept feedback and not consider themselves beyond question
- Set players at ease
- Listen to their players. Telling is not teaching
- Assess how they communicate at a non-verbal level and also adapt their communication to suit the situation. Be aware of their body language

Observation: Coaches have to train themselves to gauge how player are reacting to their teaching, and also to be able to quickly pick up any problems a bowler has. It is a good idea to sit at a distance, watching bowlers on the green. By practicing this way, the coach will become more adept at recognising faults at close quarters when actually coaching.

### Motivation:

A coach has to be an energiser of behaviour and be able to make players realise that anything is possible if they want it badly enough.

After assessing the players' expectations, the coach should be able to assist with goal setting and achievement of those goals.

Coaches must be motivated people and can best motivate their players by providing support by their encouragement and friendship.

Education: To be able to educate their players, a coach must be knowledgeable. They should be forever searching and learning and be adept at passing on the knowledge gained to those they teach.

Leadership: A coach must be a respected leader in the club and must set an example. They must be someone whose behaviour players will want to emulate. Those they teach will then be prepared always, to seek advice when they are having problems.

Evaluation: Coaches would have the ability to evaluate a bowler's performance, to know whether certain methods are working with individual people and be prepared to change direction if necessary.

Organisation: Coaches **must** be prepared and know what they hope to achieve with individual players. A programme should be prepared for each person they are coaching. This should be a flexible one that can be tuned to each person and their rate of progress.

## **PLAYER REQUIREMENTS**

When a coach is first approached by a player, be they a new bowler or one who has been playing for some time, they must find out as much as possible as to the bowlers:

- Physical condition
- Expectations from the sport
- Present abilities and stage of development as a player
- Whether they are very competitive
- Any other information which will assist the coach assess the player

This will allow the coach to build a programme which is geared to the player's individual aspirations, and physical and playing abilities.

Each player a coach is to work with will be an individual with his or her own personality. A coaching approach that works well with one player may not work at all with another. How they learn skills and the rate at which they learn is influenced by their personal differences, physical, mental and emotional.

The age of the bowler may have to be taken into consideration, as elderly people quite often are restricted in movement and in other ways. They quite often have a slower learning rate; their hearing or vision may be impaired. They also may have diminished hand strength and limb flexibility and tire more quickly.

A range of fitness levels in all bowlers will be encountered by the coach, as well different levels of hearing, vision, and also balance. This must all be considered when assessing the player and planning the individual programme.

Coaches may need to try different alternatives and new approaches before the player finally succeeds in performing various skills. This is important when the player has a physical problem or has had an illness which will affect their technique, coordination or stamina.

## SAFETY ISSUES

Whilst bowls is not an injury-oriented sport, injuries may occur when players are negligent or where the coach does not define and supervise the areas of potential injury. These are:

1. Stepping on and off the green. This presents no problem to the reasonably fit person but carelessness can cause a nasty injury. The pupil is to be informed and reminded of the need for care.
2. Stepping on loose bowls or jack on the green. Always ensure when coaching and bowling that bowls are at least 2m behind the mat and that the pupil is aware of this danger and reminded as necessary.
3. Placing hands or feet between bowls when they are moving or being moved. This could result in serious hand, finger or foot injuries. The pupil must be warned of the danger, followed up as necessary.
4. When a player is playing a fast shot under no circumstances is any attempt to be made to stop it. In addition, if it hits other bowls, the force and direction of the displaced bowls or jack are unpredictable and close attention should be given to what is happening. These aspects must be explained to the pupil and supervision maintained.
5. Bowls can weigh up to 1.59kg and should be handled with care. Injuries can result from careless handling. This should be pointed out and supervised by the coach.
6. Pupils should not be allowed to play without suitable footwear which could minimise possible injuries.
7. Pupils should not be allowed to play where they have obvious or known injuries that could be aggravated. The coach should take appropriate action.

## SAFE PRACTICES

None of us wish to be injured or cause an injury to another during our time at the training course. By taking the trouble of observing a few precautions, we can lessen the chance of this happening.

- Always place the mat correctly on the bank, never just throw it up or with part of it hanging over the edge, someone could slip on it and have a nasty fall.
- Close bowls bags properly and stow them and other property out of the way so they will not cause an injury to anyone.
- Be careful not to catch your trousers or skirt on boundary pegs when stepping down onto the green.
- Focus on the place you are going to land on the green, rather than watching the head.
- Group together all the bowls in the rink to avoid someone tripping on a loose bowl.
- Stand out of the way, preferably on the bank when someone is about to drive.
- Never step backwards; you could easily trip on bowls or the bank.
- Be careful to replace jack and bowl markers out of the way where they will not be tripped on.
- All bowls lifters, umbrellas etc should be placed on the bank and out of the way when not in use.
- Drink plenty of water before, during and after play, particularly during very hot weather. If we do not, we could become dehydrated and not only does this lead to lost concentration, it could also result in heat stroke or heat exhaustion. Water should also be taken at regular intervals.
- Alcohol, tea and coffee are diuretics and cause loss of fluid. Plain water is recommended.
- Warming up before play can help prevent pulled muscles. A short brisk walk followed by gentle stretching of muscles to be used is an appropriate warm up. NEVER stretch a cold muscle, it can result in injury. A warm up prepares the muscles for the game ahead and improves blood circulation and flexibility.
- Be careful walking on wet surfaces when wearing bowls shoes. Their very smooth soles could cause you to slip. Walking on talcum powder could also be dangerous.

## **STRETCHING**

A stretching period will ensure best performance and reduce the chances of injury, especially injury caused by over exertion. Regular stretching takes little time, approximately 5 minutes, and will do the following things:

- Make activities easier, because it prepares you for the activity, it's a way of signaling the muscles that they are about to be used.
- Reduce injury, muscle tension/strain and make the body feel more relaxed.
- Develop body awareness. As you stretch various parts of your body you focus on them and get in touch with them. You get to know yourself.
- Help coordination by allowing for freer and easier movement.
- Promote circulation by increasing the activity of the heart and lungs.

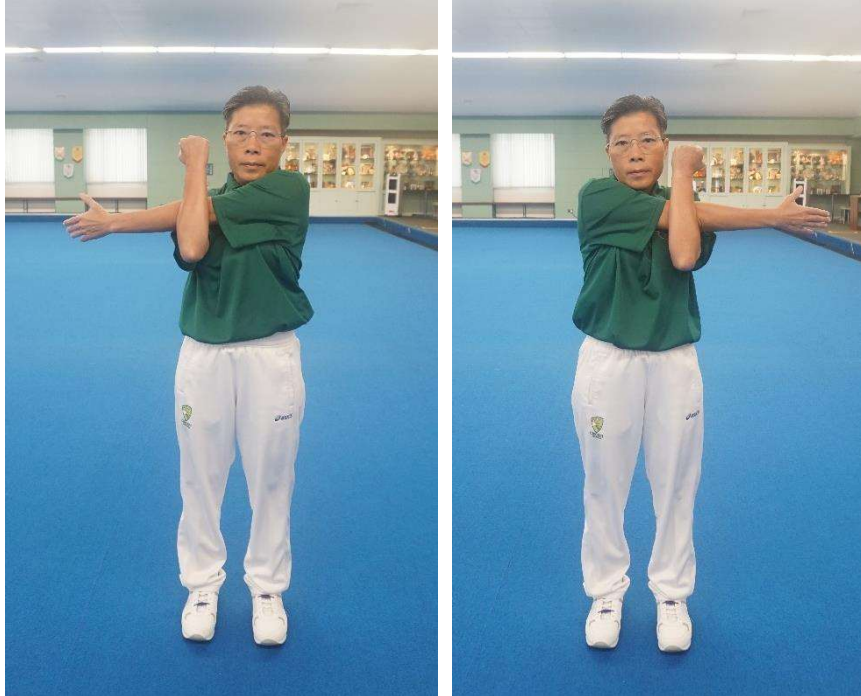
### Warm-up 1 – Reach & Stretch

Stand with feet flat on floor. Body maintain a straight posture. Push down with one hand and push up with the other.



## Stretching 2 – Shoulder

Bring your left arm across your body and hold it with your right arm, either above or below the elbow. Hold for about 15 seconds. Switch arms and repeat.



## Stretching 3 – Heels and toes

Stand with feet flat on floor. Slowly bend your knees as far as is comfortable, keeping them facing forwards. Aim to get them over your big toe. Keep your back straight at all times.





#### Stretching 4 – Finger circles

Make a round circle between your thumb and each finger. Stretch fingers right out between each circle.



#### Stretching 5 – Calf stretch

Stretch back with one foot, keeping your heel on the floor and bending the front knee. Repeat with other foot.



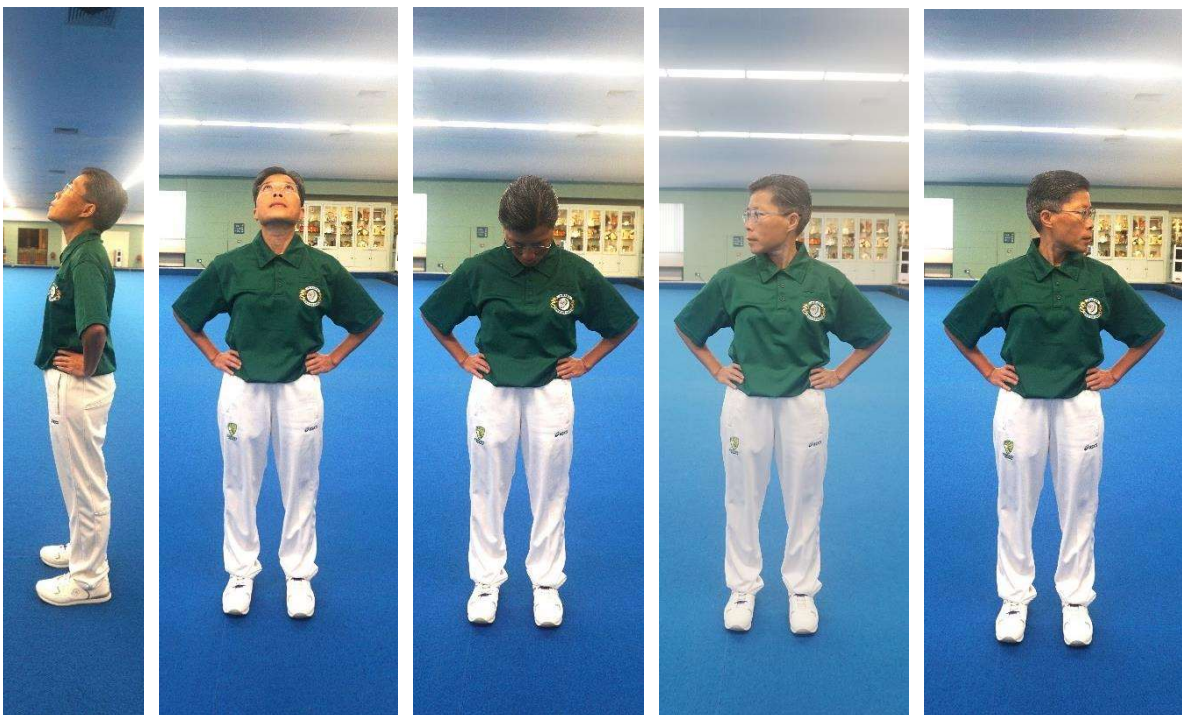
### Stretching 6 – Lunge and bend

Step one foot forward. Keeping both feet flat bend both knees. Change legs and repeat.



### Stretching 7 – Neck relaxation

Turn head to extreme right for three times, then to the left, up and down for three time each.





## **COURSE CONTENTS**

### **The Objective of the Game**

The objective of the game is to deliver your bowl to a designated point on the green be it close to the jack for scoring purposes or any other position for defending or head building.

### **History of Lawn Bowls**

According to the Encyclopaedia Britannica, Bowls has been played in some form since 5,000 BC.

It seems that it was played in England in the 13<sup>th</sup> century when King Henry III banned the game because the country's archers were playing bowls instead of practicing archery and he was concerned they would not be satisfactorily prepared in the event of another country's attack. Subsequent monarchs, Edward III, Richard II and Edward IV also preferred war games. Even Henry VIII discouraged the sport amongst the working classes, stating in 1511 that the game of bowls was associated with gambling and other loose activities. This ban was not lifted until 1845. Obviously, someone continued to play – notably the kings and upper class.

Probably the best-known piece of 'history' is that Sir Francis Drake, in 1588, is said "to have remained and finished his game of bowls" despite the approach of the Spanish Armada. Perhaps our first sports psychology in his demonstration of the virtues of intense concentration.

Over the centuries, bowls were made from any hard material available – stone and wood mostly. The introduction of a very hard (lignum vitae) from the West Indies, probably by the Spaniards and Drake, gave the players a hard and suitable material from which to fashion bowls. Nobody knows when the era of lignum vitae bowls began in England but probably arrived early in 1500, and was used for around the next 400 years. Hence the expression "woods". In 1918 wooden bowls began to be superseded by a rubber and ebonite composition weighted in the centre and shaped by the ebonite covering.

The Australian company Henselite experimented to find a plastic material suitable for moulding bowls and in 1931 the first solid 1-piece plastic bowls set was made.

Lawn Bowls is now played worldwide in over 30 countries. Early colonists introduced the game into Hong Kong with the first club Kowloon Bowling Green Club being formed at Kowloon in 1900 and Hong Kong now has around 30 clubs and approximately 3,000 participants.

## **The Green**

The green is a four-sided area with the playing surface made up of either grass or synthetic material. Each green must be a maximum length of 40M and a minimum length of 31M.

The green is divided into playing areas known as rinks with the centre of each rink being marked by a number and the outside of the playing area of the boundaries marked by pegs. Rinks must be a maximum of 5.8M and a minimum of 4.3M in width.

The green is surrounded by the ditch. At the mat end it is called the rear ditch and the end to which you are bowling is called the front ditch.

The bank is the vertical wall of the outer edge of the ditch above the surface of the green.

The plinth is the edge of grass which adjoins the ditch.

## **Green Care**

Players should be advised on the importance of green care. All clubs rely heavily on the quality of their greens and it is the responsibility of all players to ensure the work of their greenkeeper is not detrimentally affected by any actions during practice or play.

The new bowler should be advised that appropriate footwear should be worn on the green at all times and that twisting or dragging of feet will cause damage to the green. Jacks or Bowls should not be dropped or dumped on to the green.

Players should be advised not to stand or sit with their feet on or near the plinth area nor in the ditch.

## The Equipment

### The Mat

Measured 600mm (length) X 360mm (width), all bowlers must make their delivery from the mat.

### The Jack

The jack is round, white or yellow and made of a plastic material. It has a diameter of 63/64mm and it weighs 225/285g and has no bias.

### The Bowls

Bowls are of spherical shapes and are black or brown. They are made in various bias, sizes and weights with their minimum diameter being 114mm and maximum 134mm and maximum weight 1.59kg.

#### Shape of bowl

The general shape of the bowl should be clearly described and shown to the bowler, so that bias and placement of discs may be explained.

Have the player hold a bowl and observe that it is not a perfect sphere and the running surface of the bowl is slightly higher on one side, (that of the large engraving) than on the other.

It should be noted that the bias side is that on which the smaller distinctive engraving and inner set of rings is seen.

It is this feature of the construction of a bowl that gives it bias. This is the characteristic that causes it to roll in a curved path and not a straight one.

**BIAS** is the “draw” or amount of “curve” the bowl takes in the course of its movement along the green. This “curve” is not due to extra weight on one side of the bowl, but to the shape of the crown or running surface which is slightly higher on the non-bias side. The faster a bowl is delivered the straighter it will run, as it loses its speed the bias takes effect, reaching the maximum “draw” as the bowl slows down toward the objective and eventually stops.

#### Size

Bowls are manufactured in different sizes from size 00 up to size 7, with size 00 being the smallest. Get the player to observe three different sizes of bowls.

The number of different sizes of bowls is necessary because of the variation in the size of hands and to accommodate those with a disability. It is most essential that the beginner is equipped with a set of bowls of the correct size.

## Weight

The weight varies with size. Each size also has a different weight with the two most common being standard or heavy weight.

A standard weighed bowl may be more suitable to heavy green conditions or to bowlers who have not the strength in arms or wrist to hold or deliver the heavier bowl with comfort.

The heavier bowl has a few advantages:

- More force is needed when attempting to dislodge a heavier bowl from the head
- It does not run as far on a quicker green due to the extra weight
- Bowlers with hand disabilities may handle a smaller bowl with the heavier weight

## Distinctive Engraving

Have the player observe that each of three bowls has a different design engraved on it.

This is the way in which the bowls of one player are distinguished from those of another.

According to the laws of the game, all four bowls in a set must have the same distinctive design engraved. This must be clearly visible from a distance of 1.5M.

When purchasing a new set of bowls, a player may have their own design engraved if they wish.

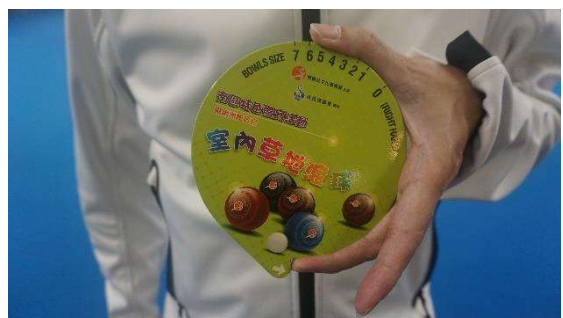
Have the player observe that each bowl has sets of rings on each side. The inner set of rings and distinctive engraving on one side are smaller than they are on the other.



## Selection of Bowls

The new bowler should be encouraged to try different makes and sizes of bowls before buying. Their choice should be influenced not only by the size of the hand, but also by the strength in the fingers, wrist and arm, which will improve with practice.

The final decision should be for the largest size bowl that can be handled without loss of comfort and control.



## Footwear

Players shall wear white, brown or black smooth-soled heel-less footwear while playing on the green.

## Coaching Technique

### Mat Placement

Holds mat by front corners and face the number on the bank at the mat end. Place the mat along centre line at the position indicated by the skip.

This method should be used for the following reasons:

- It ensures that the mat is placed straight along the centre line of the rink.
- If, following rain or wear the centre line becomes indistinct or if the mat is required to be placed beyond the centre line mark, it is easier to place the mat straight if the rear disc number is used as a guide.
- It prevents confusion with other lines, which may still be visible after having been used during games for which the rinks were positioned differently.
- Unless the mat is straight, the angle of the feet and consequently the degree of angle from the mat along the aiming line could be affected.



### Stance on the Mat

A player, at the moment of delivering the jack or bowl, shall have at least part of one foot within the confines of the mat.

### Recommended Stances

The foundation of good delivery is the stance.

The whole of the body from the feet up should be aligned in the direction of the aiming line.

To align the feet for the rolling of the jack, step from behind the mat, placing the anchor foot on the centre line of the mat then bringing the lead foot comfortable alongside.



### Option 1

Step from behind on to the mat, placing the heel of the anchor foot on the centre line with the toe approximately 10cm from the front of the mat. Pivot on the heel until the toe is pointing along the aiming line at the desired angle for the speed of the green and the shot to be played.

### Option 2

Stand in a position behind the mat facing the aiming line. Step on the mat placing the toe of the anchor foot on the centre line with the toe and heel aligned along the aiming line at the angle for the speed of the green and the shot to be played.

In both options the leading foot should be placed in a comfortable position parallel to, beside or slightly in front of the anchor foot. Ensure all parts of the body including hips, shoulders and head are facing towards the aiming line.

The bowling arm and elbow should be brought forward of the body with the elbow close to and slightly forward and the forearm running down through the wrist toward the aiming line. The arm should be placed at the required elevation in a position relative to the body that will allow an unimpeded backswing past the body with the eyes focussed on an aiming point along the aiming line.

An upright stance is recommended. The player should bring the shoulders slightly forward and flex the knees, so that the weight is on the balls of the feet (not on the heels). The centre of gravity of the body is lowered and just prior to delivery most of the weight is transferred to the anchor foot.

### Option 3

Semi fixed-style, placing hand on knee prior to stepping.

Having taken up a relaxed stance on the mat, the player is ready to make the delivery. The bowl is raised to required elevation with the running surface of the bowl pointing along the aiming line.

Place the lead foot half a normal walking step in front of the anchor foot and be sure that it is parallel to it.

The leading knee should be slightly raised thus lifting the heel off the ground. The weight of the body is then on the ball of the anchor foot.

Place the non-bowling hand on the leading knee with the arm relaxed and not taking the weight of the body but used only as a steadying influence during the forward swing of the delivery.

Now with the bowl held in the correct position, allow the bowl to drop under its own weight, ensuring a straight smooth pendulum swing.

From this point, a normal walking step is taken and the delivery completed.

To make demonstrations easier to understand, explain and show as follows:

The whole of the leading foot is placed half the length of a normal walking step in front of the anchor foot and parallel to it. When demonstrating explain that because a half step has already been taken, all that is necessary is to take the other half step, thus completing the 'normal' walking step.

#### Option 4

Have the player take up position on the mat, ensuring that body and arm are correctly placed, feet facing along the aiming line. Next, have the bowler take a normal walking step along the aiming line. Non-bowling hand should be placed on the leading knee to assist balance. If the player still has a balance problem, turn the anchor foot out slightly to a comfortable position for this will give a wider base.

The arm should be placed at the required elevation in a position relative to the body that will allow an unimpeded backswing past the body with the eyes focussed on an aiming point along the aiming line.

In this position the player is ready to begin the backswing. The coach will realise the delivery is then identical with a normal delivery.

If the player has difficulty obtaining enough length, try starting a little higher, when the backswing is completed a little body movement can take place, coming forward and down as the forward swing comes into operation.

#### **NOTE TO COACH**

*It is essential to be positive in approach to a new bowler. Stand in front and later to the side of the bowler looking for positive points on which to comment. Then suggest improvement if needed.*

#### Stance from Front

1. *Are the feet facing the correct line?*
2. *Are the feet spaced comfortable?*
3. *Is the bowling arm to the side of the body?*
4. *Is the second finger (pointing finger) in the centre of the jack or bowl?*
5. *Is the thumb in a comfortable position on the jack or bowl?*
6. *Are the shoulders square to the line of delivery?*
7. *Are the parallel lines of the bowl running through the wrist up the arm to the shoulder?*

#### Stance from Side

1. *Is the body weight toward the balls of the feet?*
2. *Are the shoulders slightly forward of the toes?*
3. *Are the knees slightly relaxed?*
4. *Is the elbow of the bowling arm slightly forward of the body?*
5. *Is the forearm running slightly down toward the wrist?*
6. *Are the fingertips of the bowling hand slightly below the wrist?*
7. *Is the player looking along the aiming line?*

## **Delivery of the Jack**

### **Grip of the Jack**

It is important for all bowlers to know how to deliver a jack well. The first task begins with grip of the jack.

There are two basic grips for the jack. First let the jack lie on the fingers. The four fingers should be close together with the jack lying towards the finger tips, and the second finger in the centre of the jack. Let the thumb rest on the topside of the jack in a comfortable position making sure the fingers are not cupped. The tips of the fingers must be slightly below the wrist.



The other grip is basically the same as above except the fingers are slightly apart (about 3-7mm) and the first three fingers with the second finger still in the centre of the jack, and the thumb just lying on the top side of the jack in a comfortable position. Make sure the fingers are not cupped.

### **NOTE TO COACH**

*This method of obtaining the correct grip of the jack may be used when teaching a new player. Place the jack in the palm of the non-bowling hand. With the fingers of the bowling hand together, place the fingers over the top of the jack until their tips touch the palm of the hand. Place the thumb against the jack, pick it up, turn your hand over, and you will find the perfect grip.*

### **Jack Delivery**

1. The delivery commences at the desired elevation with the start of the backswing in which the arm straightens at the vertical under the effect of gravity. The swing continues backwards, reaches an approximate reciprocal point, then comes forward, again initiated by gravity, to deliver the jack in front of the body. The non-bowling hand naturally drops to the thigh or knee of the lead leg to maintain balance.
2. As the delivery arm starts to drop, there is a simultaneous movement of both legs – the lead leg is stepping forward one normal walking step and the other knee is bending to lower the body, allowing a smooth delivery.
3. The movements in 1 and 2 should now be combined into a smooth delivery action with the arm remaining straight throughout the follow-through along the aiming line and the hand finishing palm up and no higher than the lead knee.
4. The jack is delivered 15-20cm in front of the lead foot. The player should stay down until it has rolled a few metres and then resume the upright position by bringing the anchor foot to the lead foot and remaining in that position until the jack has been aligned.
5. The player should now deliver several jacks to various lengths, with the distance being gradually extended to full length.

The significance of good jack control should be emphasised. Explain the tactical importance in controlling the length of the ends.



### Jack delivery skill practice

The bowler should be given the opportunity to deliver the jacks to a mark, fixing the length in the mind then delivering the jack evenly until some feel for the action is obtained. Gentle guidance/advance may assist the player from time to time. Explain that if the jack is not rolled to finish within the boundaries of the rink, in the ditch, and less than 23m in length then it is return to the opponent who re-rolls it. If you have two or more pupils, get each player to place a mat and go through the action without a jack.

When the pupils have a fair delivery, organise them into pairs and allow them to practice rolling the jacks from one to the other. A minimum length is suggested to start then increase the distance as they become more consistent.

### IMPORTANT

Delivery of the jack and a bowl must be performed in similar style.

In his early months as a bowler, the new player will first play as a lead in a team. The coach, therefore, should keep emphasising how important it is to deliver the jack correctly and what a great bearing this single action can have on a game. The first point to be made clear to him is that when he delivers the jack, he must try to deliver it to the length the skip requires. He must also be told that if the bowl is delivered with similar action and speed, both bowl and jack will finish close together, provided the aiming line for the bowl is correct. Judge the pace of the green with the bowler using his natural rhythm to roll the jack. If the jack stops quickly and has gone only a short distance – say, about 23 or 24m – the green would be slow (about 12 seconds); the jack gradually slowing up and stopping about the 27m mark would indicate a medium-paced green (about 14 seconds). But when the jack rolls on and on and you don't think it will ever stop, the green will be fast when the jack rolls on and on and you don't think it will ever stop, the green will be fast (16 seconds) and the jack will have traveled about 31m.

## Grip of the bowl

Explain to the player the significance of the bias in the run of the bowl and how the small insignia designates the bias side and why the bowl curves in its course. Explain the necessity to allow for the curve so the bowl will finish near the jack.

Overall the bowl must “feel” comfortable in the hand and additional advice should be sought if there is any doubt. There are some commercial polish preparations which, if applied to the bowl and hand, will enhance the grip.

There are three basic grips which may be employed – the fingertip, claw and cradle.

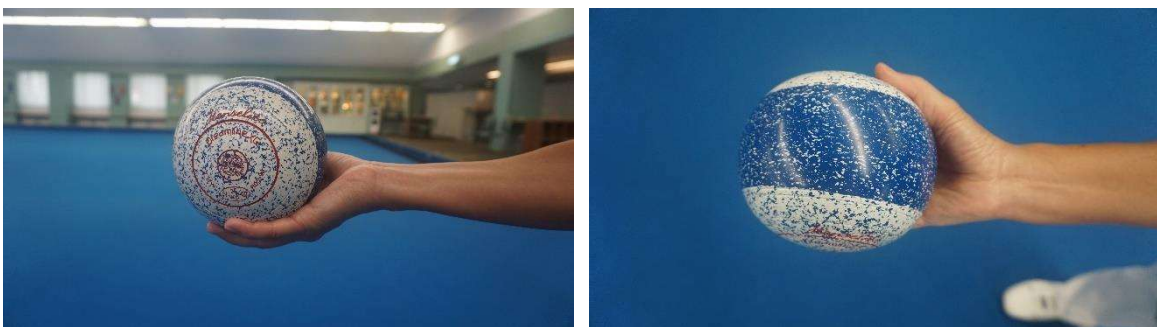
### Fingertip

The fingertip grip is the most frequently used by players in Australia, and is the grip recommended. The fingers are spread in a relaxed position close together with the middle finger in the centre of the running surface of the bowl, and the thumb placed near but no higher than the large ring. This has the effect of shifting the weight of the bowl forward on to the fingertips and allows greater sensitivity or touch (most necessary on fast greens). Care must be taken not to allow the little finger to stray up the side of the bowl, as this is the most common cause of a wobbled bowl.



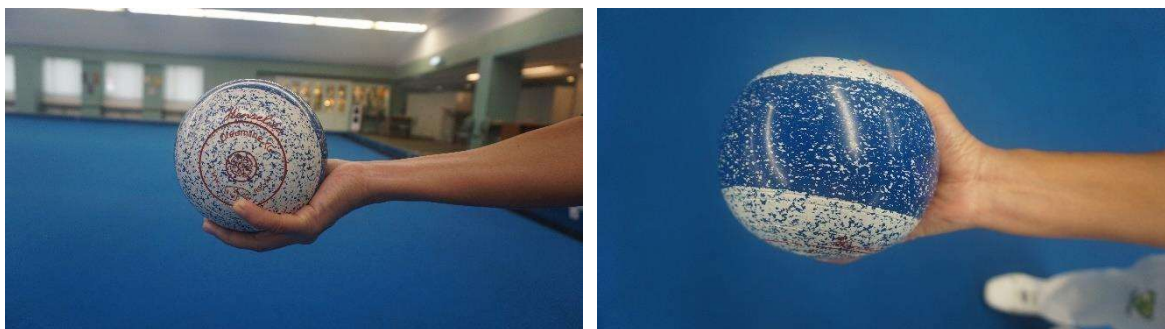
### Claw

The claw grip is commonly used by players with small hands or those with difficulty holding the bowl. The fingers are spread slightly apart with the middle finger in the centre of the running surface of the bowl, and the thumb is placed lower on the bowl towards the large outer ring. The weight of the bowl is therefore taken on the fingers.



### Cradle (Palm)

The cradle grip is normally used on a very slow green, or where a very small hand or a disability makes it necessary. With this grip the bowl is placed well back in the palm of the hand with the middle finger in the centre of the running surface. The thumb is placed low on one side of the bowl with the fingers spread as far as possible in a relaxed position. It is necessary to feel that the bowl is held firmly so as not to slip. Squeezing the bowl may tighten the muscles of the arm as well as the hand and create inconsistent delivery.



### Alignment of the running surface

There are various methods of effecting the bowls grip but the final need is to sit the bowl in the fingers and hand in a relaxed way with the thumb in a comfortable position no higher than the large ring. The middle finger must be in the centre of the running surface and the large rings must point up the arm to the shoulder. Finger tips should be slightly below the level of the wrist.

### Choice of Grips

The most important common denominator of all grips is that the fingers are parallel to the running surface of the bowl. When the bowl is held correctly, the running surface of the bowl, the fingers, wrist and shoulder should all be on a straight line.

With all these grips, it is suggested that the bowl be held in the non-bowling hand and not transferred to the bowling hand until the stance has been taken on the mat. This method allows the bowlers to take more care in the placement of the feet. Less stress is placed on the bowling hand and arm which is particularly important when playing in lengthy competitions.

An alternative method is to grip the bowl prior to taking the stance on the mat. This lessens the probability of moving the feet away from the aiming line when having to grip the bowl after the stance is taken.

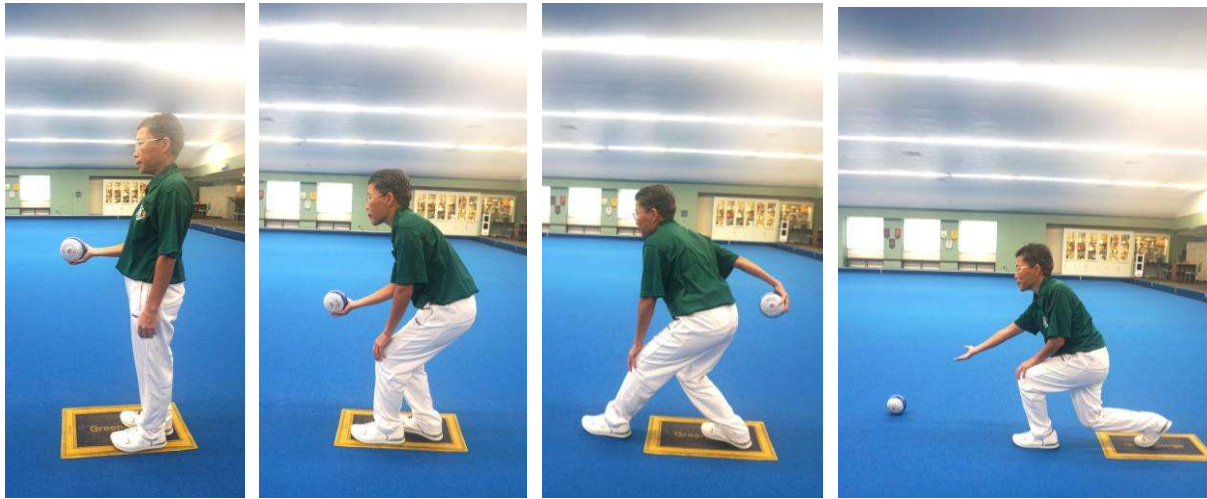
There is no advantage in placing the thumb higher up the bowl than has been suggested. The thumb plays no part in the actual delivery, and you can easily demonstrate that the higher the thumb is on the bowl, the more undesirable tension is generated in the wrist and forearm. The wrist should be firm but without tension or strain.

The grip should be as natural as possible, require a minimum of attention, control the bowl with a minimum of effort, and the bowl must be rolling as it leaves the hand.

Some players ensure that the fingers are correctly placed by first holding the bowl in the opposite hand in a reversed position. Position the fingers of the preferred hand on top of the bowl with the second finger along the centre (running surface) of the bowl. The bowl is then turned over with the thumb placed in a comfortable position. Ensure that the bias is correct for the hand to be played.

The bowler should be made aware that the grip is the same for both backhand and forehand.

## Delivery Technique



### Back Swing

The basis for all delivery is the pendulum action of the arm with an even and continuous forward movement. There should always be an easy, relaxed rhythm in the delivery with the palm of the hand following the bowl in a natural follow-through. Eyes should be fixed on an aiming point at a convenient distance along the aiming line.

As the backswing commences, the player steps forward taking a normal walking step with the lead foot. The non-bowling hand moves towards its resting place on the thigh or knee. Having the forearm on the knee or the thigh, alters the squaring of the shoulders. The rear knee is tucked in behind the heel of the lead foot. Make sure the shoulders remain square to the line of delivery.

In timing, the swing of the arm is in relation to the step. The backswing should be complete as the heel of the lead foot contacts the ground. As the foot is anchored the forward movement of the arm has commenced. 90 percent of the body weight must be on the lead foot before the jack or bowl is released. Delivery must be made 15-20cm forward and close to the side of the front foot along the line of delivery.

There must be a good follow through and the player should stay down until the bowl has traveled well along the aiming line, at the same time watching until it comes to rest. This helps the player to read the pace of the green. A new player can gain confidence by delivering a jack consistently and correctly before delivering a bowl.

The delivering of the jack for a beginner is very important in order to give some idea of weight. Using at least six jacks, the player should deliver these to a constant length.

The coach should be able to pick a length that will allow the player to deliver a jack long enough on a slow green, and not lose it in the ditch on a fast green. When the player can deliver these consistently to a length, delivery of the bowl may be taught. It is important, however, to allow the player to deliver the bowls up and down the green before the first lesson of one hour is over, even if not able to deliver the jacks as the coach would desire.

## **Delivery Technique** (cont'd)

### **Bowl Delivery**

1. The delivery commences at the desired elevation with the start of the backswing in which the arm straightens at the vertical under the effect of gravity. The swing continues backwards, reaches an approximate reciprocal point, then comes forward, again initiated by gravity, to deliver the jack in front of the body. The non-bowling hand naturally drops to the thigh or knee of the lead leg to maintain balance.
2. To allow for the bias, the bowl must be delivered away from the centre line on an aiming line that will allow the bias to work to bring the bowl back to the desired finishing point.
3. As the delivery arm starts to drop, there is a simultaneous movement of both legs – the lead leg is stepping forward one normal walking step and the other knee is bending to lower the body, allowing a smooth delivery.
4. The movements in 1 and 2 should now be combined into a smooth delivery action with the arm remaining straight throughout the follow-through along the aiming line and the hand finishing palm up and no higher than the lead knee.
5. The bowl is delivered 15-20cm in front of the lead foot. The player should stay down until it has rolled a few metres and then resume the upright position by bringing the anchor foot to the lead foot and remaining in that position until the jack has been aligned.
6. The player should now deliver several bowls to various lengths, with the distance being gradually extended to full length.

### **NOTE TO COACH**

With a beginner, the coach should place a marker about half way to the bowl on the approximate aiming line. Allow the player to practice delivering on this line adjusting as necessary. This should be practiced on both hands.

### **Weight Control (Bowl Speed)**

Beginner bowlers have busy minds. They think about things like arm elevation, timing, step length, trailing leg positioning and follow through posture as they deliver a bowl. These busy thoughts are an unavoidable phase in the process of learning delivery technique.

With regular practice, their movements become less awkward, more precise and more consistent. Eventually their delivery technique becomes almost as automatic as blinking or breathing. Their minds are then clearer, and they can give full attention to judging the line and length required for each delivery.

## **Delivery Technique** (cont'd)

### **Control of Length**

This is the harder of the two basic factors (line and length) for the player to master. Many instructional publications advocate the "Theory of Elevation" – namely, that the higher the bowl is held prior to delivery the longer will be the pendulum action, and therefore more momentum will be applied to the bowl. Others recommend that the length of the step be increased or decreased to increase or reduce the distance the bowl travels. Both their methods work and are employed by many leading bowlers.

However, the method to be recommended to your players involves the speed of delivery. It is considered that every bowler has his own individual natural speed of delivery. That is to say, when his "natural" pace matches the pace of the green and the length of end being played, his length control will be good. His ability to adjust to varying conditions, greens of different pace and ends of different length will determine how proficient he is to become as a bowler. Ignore the back swing.

The momentum applied to the bowl at the point of delivery determines how far the bowl will travel before coming to rest. Increasing the speed of the delivery action will automatically increase the length of the pendulum, the length of the step and therefore increase the momentum with which the bowl leaves the hand.

Conversely, slowing the speed of delivery will decrease the length of pendulum, length of the step and therefore decrease the momentum on the bowl. Provided the player has developed a consistent delivery technique, practice will permit accurate adjustments of length by simply varying the speed of the delivery movement.

Teaching the new bowler to concentrate attention on the jack so that internal mechanisms decide on the length to be covered, the "weight" to be applied to the bowl, is an important part of the coach's task. Experience will teach the bowler to estimate the pace of the green so that a judgement may be made as to the correct velocity that should be imparted to the bowl on delivery.

In practice situation, the coach should comment on length of each bowl and suggest increased velocity or reduction in "weight" as required to keep this factor in the bowler's mind. In this way the bowler will learn to "read the green" in a satisfactory way.



## **Delivery Technique** (cont'd)

### **Establishing aiming line and aiming points**

On a true green without wind, for a draw shot the angle of the grass line to the centre line of the rink is constant for any length of end and is relative to the pace of the green – a fast green will require a lot more grass than a slow green. When selecting your grass line, face a point on the bank then bring the eyes back along a straight line between this point and the right foot until you feel comfortable. This is your aiming point and should be where the eyes are looking at the moment of delivery. This aiming point will vary with the physical stature of each individual.

A number of approaches have been suggested to the task of judging or choosing line. Experience and practice will help the bowler develop a routine which will ensure they become competent in this facet of play. Stress the need to face the selected line with feet pointing along the aiming line and all other parts of the body facing the desired direction.

Conventional wisdom suggests the bowler select a point on the bank when choosing line of green then bring the eyes back to a point comfortable for them. They then deliver the bowl towards this point. Once bowlers have experienced the arc of their bowl many visualise this arc from the jack back to a point from the mat comfortable for them and deliver the bowl towards that point.

Regular practice enables the bowler to improve their visualisation skills for all shots to the extent where many find judging line an automatic skill in some or all playing situations. Such visualisation skills improve performance in consistent line and length control and is possessed by the highest-level performers. However, it should be noted that consistent performance can still be attained by bowlers without these skills utilising discipline routines and delivery as described.

Here is a practical method for teaching the new bowler to read the line of the green and establish the aiming point which best suits their personal style. Please note that there are many options available and the coach will develop the best method to suit the player.

- a) In preparation of the rink for the lesson place a mat on the 2m mark from the rear ditch and a jack on each of the 23m mark, a medium length and on the 2m mark from the front ditch.
- b) By drawing the player's bowls to the centre line establish the correct aiming line for both forehand and backhand. Place a gate on both sides of the rink of say 30 to 60cm in width at between 3 to 5m from the mat with the centre of each gate being on the aiming line for the draw shot to the centre line.
- c) When the lesson commences explain to the player that although the bowl turns, the delivery of the bowl is still based on a straight line ie the aiming line. Deliver a jack through the gate on the forehand side to a position around jack high (Note: if the jack ventures off the aiming line you will need to replace or have a helper replace it on the aiming line.) Repeat the process with a jack on the backhand side.
- d) Ask the player to stand behind the mat and draw an imaginary line through the gate, and through the jack on the aiming line to a point on the bank and explain to the player that where they must focus is at a point along this line which will best suit his own personal style. You may wish to place a marker on this point on each hand. There is no correct or incorrect point along this aiming line.



### **Delivery Technique** (cont'd)

- e) Now deliver a series of bowls through each of the gates to each of the jacks thus demonstrating that each of the bowls commences on the straight line ie the aiming line and also that the angle of the aiming line from the centre line does not vary for any of the lengths.
- f) Allow the player to work with this exercise until they are comfortable with the theory and have established their aiming point (Note: their first choice of aiming point may not be the best for them. Encourage experimentation.), continually returning their bowls to the mat end. Then remove the gates and allow them to practice for the rest of the session alternating ends.

Coaches will regularly experience players with a preference for either playing their forehand or backhand. It is imperative when coaching the new bowler that, with the exception of the placement of the bias of the bowl in the hand and the side of the rink of the aiming point, there is no difference between forehand and backhand shots.

## Correcting Faults in Delivery

### Common Faults

1. Not holding bowl or jack in correct grip – Bowl should be held towards the fingertips, never on the fingertips.
2. Feet too far forward or too far back on mat – Forward could cause a foot fault, back could cause overstepping.
3. Knees bent too much or too straight – Too bent means additional movement. Too straight could cause head to drop or unnecessary use of back.
4. Crouch stance on mat, Body not in comfortable position – Body must rise to allow a natural walking step stance. A relaxed upright is best, placing less stress on back and leg muscles.
5. Not delivering bowl correctly – Second finger should be in centre of bowl running surface. If off centre could cause a wobble.
6. Backswing too great – The player has taken the bowl back instead of letting it fall under own weight.
7. Step too long or too short – The natural walking step is best because it allows the knee of the back leg to be tucked in behind the front foot.
8. Delivering jack or bowl behind front foot – Not enough weight on the front foot. The shoulder of the bowling arm is therefore not forward of the front foot allowing delivery of jack or bowl forward of body.
9. Forehand delivery arm away from body – Could cause a narrow bowl on forehand and wide on backhand. The arm should be close to the body and the follow through a straight natural swing.
10. Stepping across line of back foot – Step must be straight and parallel to line of delivery.
11. No control over weight or length – Follow through may not be sufficient. Arm may be bending on release of bowl. May not be in a position that allows release of bowl or jack cleanly on to green.
12. Bowling arm coming across body – May have to check stance to see if bowl is being held in front of body instead of to the side.
13. Stepping back instead of forward after delivery – Momentum should always be going forward with bowler bringing back foot alongside front foot after delivery.
14. Shoulders not square to aiming line – The whole body should be square on to aiming line to maintain direction.
15. Not staying down after delivery – Getting up too soon after delivery can cause short bowls. Incomplete follow through may affect aiming line.
16. Bowl too large – A too large bowl could cause the bowler to grip bowl too hard with the resulting tightening of muscles. Bowl may be dropped.
17. Wrist not firm as bowl is released – Control of length may be affected if wrist does not remain firm.
18. Arm finishing too high after delivery – Elbow must be locked as bowl becomes level with body in backswing and remain locked throughout delivery.
19. Eyes moving during delivery – If the eyes move, the body will usually follow resulting in loss of aiming line.
20. Head dropping down during delivery – Usually caused by back leg being too straight. [Too long a step]
21. Flicking wrist at moment of delivery – Often results in poor weight control.
22. Twisting wrist on backswing – May cause bowl to be with parallel line of bowl not facing up aiming line resulting in a wobble.
23. Little finger too high on side of bowl – Could pull fingers off line causing a wobble.
24. Thumb too high on centre of bowl – Could pull the wrist over resulting in a wobble.

## **Correcting Faults in Delivery** (cont'd)

### **Over Bowling**

1. Holding bowling hand too high in stance
2. Backswing overdone
3. Backswing too quick
4. Bowling hand going up or out as player begins delivery
5. Over stepping which makes the bowler over reach
6. Flicking the wrist at the moment of releasing the bowl
7. The aiming point is too far up the green
8. Too much momentum in delivery

### **Bowl Wobble**

1. Grip incorrect (parallel line not running through the wrist, forearm and up to shoulder)
2. Twisting wrist in backswing and holding in same position on delivery
3. Twisting wrist in delivery
4. Second finger not in centre of running surface of bowl
5. Thumb too high on centre of bowl (pulls wrist over)
6. Little finger too high up side of bowl if thumb is on or above the large rings
7. Wrong sized bowl

## The Course Itinerary

A draw shot is the basic essential in the bowler's armory and the most lethal weapon that can be used against an opponent in bowls, so it is essential that the new bowler know how to acquire skill. To assist the new bowler to become a consistent draw-shot player at varied lengths and positions, suggest the following routines:

Session	Action
<b>1</b>	<ul style="list-style-type: none"> <li>- Introduction of the game</li> <li>- Safety Issues</li> <li>- The equipment</li> <li>- Warmup</li> <li>- The Mat Placement</li> <li>- Jack practice - The coach asks a participant to stand on the mat and pick up the jack. The participant bowl the jack towards the coach, who will be standing directly in front of the mat at a distance of 15M. Often a new bowler will demonstrate a natural delivery action from the initial stance on the mat to the moment of jack leaves his hand. After 2 or 3 tries, the coach then moves to the right and requests the jack be delivered towards him. When the participant has done this to the coach's satisfaction, the coach will move to the left and deliver the jack in the same manner. This exercise also help the participants to understand that, in order to bowl a good line, it is better to turn the whole body to face that line directly. From this first rolling of the jack, the coach will have some idea of the participant's balance, general control and physical capabilities.</li> <li>- Choose the bowl</li> <li>- Demonstration of the various way to hold a bowl</li> <li>- Explain the Bias, line and length</li> <li>- Place a Jack 2M from the ditch, allows participant to deliver their bowls</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>- Warmup</li> <li>- Reminder on the correct placing of the mat</li> <li>- Jack practice - Divided the group into two team, situated at each side of the rink. Each participant take turn to delivery the Jack to the 2M mark. Session completed when each participant delivered the Jack twice.</li> <li>- Bowl practice – Jack being centred at three-quarter length with two bowls set at jack-high, present a wide target to the bowler. The aim is to get the beginner's delivery action to be as smooth as possible.</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>- Warmup</li> <li>- Jack practice – Same as Session 2.</li> <li>- Bowl practice – The same as session 2. The practice should continue until the participants demonstrate a fairly good knowledge of the pace of the green and the line necessary for the playing of a successful shot.</li> </ul>

## The Course Itinerary (cont'd)

<b>4</b>	<ul style="list-style-type: none"> <li>- Warmup</li> <li>- Jack practice – Same as Session 2.</li> <li>- Bowl practice – Commence session with a medium length practice end using two bowls. Play two bowls consecutively on the same side of the rink eg fore hand. Then deliver with the same hand from the opposite end. This practice ended when each participant delivered twice from each end.</li> <li>- Introduce measuring exercise for the participants. Set some heads and allow each participant to practice measure.</li> </ul>
<b>5</b>	<ul style="list-style-type: none"> <li>- Warmup</li> <li>- Jack practice – Same as Session 2.</li> <li>- Bowl practice – Each participant using four bowls. Each play two consecutively bowls on one side (forehand) of the rink. After all participants finished the side, play the remaining two on the other side. This practice ended when each participant delivered twice from each end.</li> <li>- Introduction of the types of game and team responsibilities.</li> <li>- If time allows, play a game of 321 until the end, each participant using two bowls.</li> </ul>
<b>6</b>	<ul style="list-style-type: none"> <li>- Warmup</li> <li>- Jack practice – Same as Session 2.</li> <li>- Bowl practice – Using two jacks. {place one approximately 2M from the ditch and the other approximately 23M from the mat. Each participant play two bowls consecutively on one side (forehand) of the rink, the first to the rear jack and the second to the front jack. After all participants finished the side, play the remaining two on the other side. This practice ended when each participant delivered twice from each end.</li> <li>- Briefly introduce the Laws of the Game.</li> <li>- If time allows, play a game of 321 until the end, each participant using two bowls.</li> </ul>
<b>7</b>	<ul style="list-style-type: none"> <li>- Warmup</li> <li>- Jack practice – Same as Session 2.</li> <li>- Bowl practice – Same as session 6, however allows participants using the hand preferred.</li> <li>- Play a game of 321 until the end, each participant using two bowls.</li> </ul>
<b>8</b>	<ul style="list-style-type: none"> <li>- Warmup</li> <li>- Jack practice – Same as Session 2.</li> <li>- Introduction of the Etiquette of the Game.</li> <li>- Divide the participants into two team and play a game. Point out the inappropriate during the course of the game.</li> </ul>

## **Care of Bowls**

Discussion on polish to be used, and methods of polishing bowls should be undertaken. Light application of the chosen polish and thorough shining is recommended. Polishing the bowls may enhance grip of the bowl prior to delivery and ensure smooth flow of the bowl on the green.

Carefully wipe bowls after use prior to placing in bowls case. This will reduce effect of abrasive sand or grit. Ensure that bottom of bag is free from substances that may damage the running surface or engraving. Occasionally wash bowls in warm water with soap or mild detergent to remove excess polish and grit. Dry and polish.

If regularly playing fours or triples, rotate the bowls in your set, “resting” a different bowl or bowls each game.

**ACTION:** Show the player the polishing cloth and polish and demonstrate their use.

**REMINDER:** Point out that some players carry a chamois to dry bowls in wet weather. A damp chamois is useful to dry the hands in very hot weather.

## **The 4 Cs**

Confidence  
Concentration  
Consistency  
Control

So that athletes may accomplish such skills to assist them in improving the quality and consistency of their performance, we need to provide them with exercises for them to practice, incorporate into training schedules and integrate, where possible, into their pre-match practice and performance.

Only about 6 minutes is spent in actual bowls delivery during the course of a game. A game will last approximately three hours and it is impossible to maintain complete concentration during this whole period. The period between deliveries can be used to perform these exercises.

# **Appendix 1**

## **Coaches' Code of Conduct** **教練守則**



# Coaches' Code of Conduct

## Background:

Coaches' Code of Conduct Coaches serve a number of important roles such as teacher, role model, mentor, guardian and trainer. Good coaches provide athletes with positive experiences in sports participation and help nurture sportsmanship. In order to ensure the quality of coaches, the Hong Kong Coaching Committee has formulated a Code of Conduct for coaches to follow:

## Code of Conduct:

1. Treat each athlete as an individual and help him/her to reach full potential.
2. Promote fair play and show respect for other teams. Accept both the guidelines and the spirit of the rules that define and govern his/her sport.
3. Keep up with the latest coaching techniques and seek continual improvement.
4. Provide a safe environment. Check that the equipment and facilities are safe.
5. Ensure training and competition are suitable for the age and fitness level of the athletes.
6. Let athletes know the benefit of sport and encourage them to participate in sport throughout their lives.
7. Do not over train athletes. Maintain athletes' interest and promote their enthusiasm towards sports.
8. Always lead by example and do not speak foul language.
9. Avoid any form of harassment towards your athletes. This includes harassment on sex, race and disability.

# **Appendix 2**

## **Biomechanics**

## BIOMECHANICS

Bio-mechanics has been defined as a science that examines the internal and external forces acting upon the body. Bio-mechanical analysis has highlighted the differences which can occur between and within top class bowlers yet which may have little discernible effect on their ultimate ability to perform well.

There is no one perfect way to deliver a bowl. There is a perfect way for each one of us and every bowler will eventually develop their own style of delivery, however, using the principles of bio-mechanics, several points require highlighting in order to permit coaches to instruct bowlers in ways to assist the prevention of injuries.

1. Adoption of a less flexed “set” position, or at least a reduced period of time spent in this static flexed posture would be beneficial.
2. Maintenance of an erect but stable posture as far as possible throughout delivery and follow through while still allowing smooth delivery of the bowl onto the green at point of release.
3. Rising from the follow through position s soon as possible after delivery in order to ease the strain placed on anatomical structures.
4. Attention to preference for a particular hand as a factor in consistency and accuracy as well as the prevention of injuries.
5. Holding of the bowl close to the hip line in the “set” position to reduce injury to shoulder and back muscles.

All action puts stress on the muscles and joints. We need to reduce that stress to get optimal results from the least amount of effort and put minimal strain on the body. **Bad** Bio-mechanics put stress on the muscles and joints. **Good** Bio-mechanics allow us to perform a movement efficiently with little strain. An understanding of the mechanical principles and laws, combined with the experience of the coach, will help the bowler to refine technique and reach optimum performance.

The actions of muscles and joints play an important part in the delivery of jack and bowl. Many bowlers complain of tired legs, aching shoulders and sore backs after a long day of bowling. This can often be attributed to the way in which they bowl.

If we make an analysis of the bio-mechanical technique, we find that it is divided into three parts – the phases being the preparatory stage, the movement stage, and the recovery stage. The analysis shows that stresses are placed on the bowlers’ anatomy when undesirable styles are used. It is in the early stages of learning a new sport that the formation of unwanted habits can be avoided.

During the Preparatory stage, the body is being prepared for the balance required for the movement stage. To achieve bio-mechanical and technical correctness, the whole body, from top to toe, should be positioned so that it is square to the path that the bowl will travel. Any additional effort ultimately produces tiredness, or could event cause injury due to twisting of the body. One mental consideration at this time is the distance the bowl has to travel. An upright stance is recommended at this stage as distance can be more easily assessed by standing upright.

## BIOMECHANICS (cont'd)

We often see bowlers taking a crouched position on the mat. This is not recommended as it puts additional stress on the whole body. The lower the center of gravity, the harder it is to move.

The stance could also lead to:

- Loss of balance
- Back strain
- Increased pressure on the knees
- Increased thigh, hip and neck strain

Bowlers should adopt a more erect posture at stance to avoid stresses on the knees, hips and back. It is possible that some variation in trunk inclination is acceptable as long as it remains constant throughout the delivery action. A relatively constant angle of trunk inclination suggests that the bowlers' head is more steady and able to maintain a vision along the aiming line during delivery.

Every bowler seeking improvement should examine their action to detect for inconsistencies in delivery, and check postures which may result in long term damage to the anatomical structures.

### Lifting the Bowl

The bowl should be lifted from the ground using the levers of the legs in preference to the back, and held in the non-bowling hand close to the side of the body until ready to bowl. This also takes some of the work away from the bowling hand.

After the bowl is transferred to the bowling hand it should be held at the side of the body, close to the hip line with the elbow just in front of the body. This ensures that the arm has an uninterrupted path in the backswing minimising the effect of the resistant weight of the bowl on the forearm, shoulder and back muscles. An increase of strain is placed upon the spine when an object is held at arm's length. By bringing the object closer to the body, the muscular stress is reduced.

The preparatory stage known as the **Stance** is now complete.

The upright position, however, is not an easy starting point for the following Movement Stage. So, as the delivery commences, the player should bring the shoulders forward and flex the knees, so that the weight is on the balls of the feet and the centre of gravity of the body lowered.

## BIOMECHANICS (cont'd)

### The Movement Stage

Phase two is the movement stage better known as the **Delivery**.

Bio-mechanically the movement involves the arms and legs only. The inclination of the back arrived at as a result of the position taken in stance, should not change throughout delivery. Any action taking the back out of this inclination will involve extra effort and will place strain on the back. By lowering the body from the hips, the back remains at the same inclination.

A stable base of support of the body is desirable to ensure an error free consistent delivery. The key to establishing this stable base is the length of the step taken.

A natural walking step is recommended as it does not alter the inclination of the back and no strain will be placed upon the back muscles. The body is then lowered by bending the knees. Resting the non-bowling hand on the thigh or knee assists balance. Having the forearm on the knee or the thigh, alters the squaring of the shoulders.

Taking a longer step alters the inclination of the back. The longer the step, the more strain and loss of stability there is. With a long step, the body bends from the waist, using the back as a lever, causing the diaphragm to compress the stomach, increasing muscular strain in several areas. The bowler can not follow through unless the head is lifted. This introduces more excessive body movement and could cause strain to the neck muscles. There is less chance of error if the number of moving parts is reduced. Greatest accuracy is when there is a stable base and little or no body movement. The feet should be positioned and the non-bowling hand resting on the knee by the time the backswing is completed. This too gives the most stable position for the all-important forward swing.

A shorter step cramps the body resulting in a poor delivery.

In the delivery action the body needs to be lowered close to the ground in order to allow the bowl to roll off the middle finger, effecting a smooth delivery onto the green.

The recommended movement for the swing of the bowling arm can be likened to that of a pendulum. The backswing should be dynamic but slow, since it is important to place the muscles on stretch, so that they can contract more powerfully. Muscles move the bones to which they are attached by stretching and recoiling, similar to a spring. Because all the muscle fibres do not move in unison, there is a minute pause at the end of the backswing, to allow all the fibres to be in position to move forward, otherwise you will have some fibres contracting whilst others are stretching.

The bowler should use the whole of the arm, straight from the shoulder to the end of the middle finger, to deliver the bowl. This enhances accuracy and forms an easy base for consistency. Keep the arm straight by locking the elbow joint as the arm drops level with the body and hold in that position throughout delivery. Use the arm as a long lever, the fulcrum being the shoulder joint.

## **BIOMECHANICS (cont'd)**

The power generated by the use of the whole arm as lever is lost when the elbow is bent. The leverage is reduced to half. There is not turning of the wrist at the point of delivery, as this will influence the path of the bowl. Dropping the wrist will shorten the leverage to the distance between the wrist and the tips of the fingers and has nearly five times less leverage than that gained by the straight arm bowler.

The movement stage is complete when the arm completes its pendulum swing.

The main purpose of the follow through is to ensure that the forward motion continues throughout the delivery.

### **Bio-mechanics and Bowls**

An understanding of mechanical principles and laws, combined with the experience of the coach, the style of successful performers and the intuitive skill of the player, will enable the coach to help the bowler reach optimum performance. The clear aim of the coach is to aid the bowler to develop good technique.

Good technique of bowling implies economy of effort and movement to obtain an automatic style of bowl delivery so that good performance results. However, some players have unique qualities what will enable them to overcome technique faults and still obtain successful results. Endurance, flexibility, strength, hand-eye coordination and leg power may enable a skilled performer to obtain such results.

If these are developed, along with sound technique, greater chance of success will be possible.

In each case due note of individual differences should be made by the coach. Variables in physique, personality and temperament should be noted and every effort made to meet individual need when teaching bowls technique so that the bowler may make the most of innate abilities and lessen deficiencies. Careful determination of what will work for each individual and what is beyond individual capacity is necessary.

### **Important Points**

1. Handling comfort is the main consideration in choosing the size of a bowl. Any variation from the ideal size should err on the side of being too small rather than too large.
2. The grip used should enable the hand to transmit propelling force through the centre of the bowl. Bowlers without disabilities normally achieve this if the end joint of the middle finger is behind the centre of the bowl at the moment of release.
3. Wobble affects the run of a bowl. A wobble-free run can be achieved only if the coaxial engraved rings of the bowl are upright and directed at aiming point at the time of release.
4. Dumped bowls can not only damage the green, their run would be affected. Dumping should be avoided by using a stance that positions the shoulder no more than an arm's length above the green at the point of delivery.
5. Movement caused by instability, head dropping, or premature recovery at the instant of release causes inaccuracy and inconsistency.

## BIOMECHANICS (cont'd)

6. Overstepping or stepping that converges on the line of the back foot causes a narrowing of the base of support and consequent instability.
7. A bowler's set up, or stance, should be anatomically aligned in the direction of delivery. In this way, a bowler's sensory and visual feedback in taking aim produces accurate delivery line.
8. In the set up, or stance, bowlers can check delivery arm alignment by one or two trial swings to ensure the arc of movement follows the aiming line.
9. Bowlers who use a jack high aiming point, or some other aiming point well up the rink are obliged to position the knee of the back foot near the heel of the front foot to get the base of the spine low enough for viewing well forward without neck discomfort.
10. Bowl release velocity is produced partly by gravitational force and partly by muscular force.

### Determining Green Speeds

Make sure that the new bowler is conversant with the method of ascertaining pace or speed of green. The texture and thus the holding quality of a green may vary greatly according to the type of grass or synthetic surface, the lushness or dryness of the grass, cut long or short, with ground soft or hard, thus causing the bowl to take a longer or shorter time to reach the jack.

If the surface is very dry and smooth and thus "fast", the arc prescribed by the bowl from the time it leaves the hand until it reaches the jack will be large, so the bowl will take a longer time to cover the distance perhaps 15 to 20 seconds. If on the other hand the grass is longer and damper, the green may be "slow", so more force will have to be applied in delivery of the bowl. The arc will be narrower and thus the bowl will cover a more direct path taking less time in passage. This may be 8-12 seconds.

The pace of a green is indicated by the number of seconds taken by a bowl to cover the distance from delivery point until it comes to rest 27M from the mat line or the leading edge of the mat.

It is important to point out the necessity to note the green speed reported at the beginning of the game and then to make the most of the opportunity in the roll up to ascertain the width of green to be selected. After many games over a period, the player will know within reason the speed of a green given with the call of the card. This indicates that a bowl takes 14 seconds to traverse the arc covered from the time it leaves a bowler's hand until it comes to rest at a distance of 27m.

Explain that on a heavy or slow green, more force has to be applied to the bowl so that the arc covered is less and the bowl reaches its resting point more quickly – say 10 seconds. Make it clear on the other hand, that on a fast or hard green, little force is applied to the bowl so that a much wider arc is traversed by the bowl in course, which consequently takes more time to reach its resting point 27m away. Thus, a fast green may run 18 seconds.

Suggest that the bowler give attention to understanding this information in gaining skill at finding the correct "weight" to apply to the bowl. Intensive practice with a great deal of concentration may be needed to build skill in correction of length. Poor stance, balance or a rushed delivery may contribute to inconsistent weight. Practice involving bowling to jacks at varying distances may aid the bowler's versatility at finding correct length.

## **Appendix 3**

### **A Brief Introduction on the Laws of the Game**



## A Brief Introduction on the Laws of the Game

### 1. Mat, Jack, Bowls and Footwear

1.1. For local games HKLBA do not insist on the 10-year rule as 1.14a. In National League Competitions and National Competitions, any bowl with a date stamp of not more than 20 years before the date of the competition is valid and can be used. For international competitions or their qualifying tournaments, however, bowls shall comply with the provisions of the Laws of the Sports of Bowls issued by World Bowls or the requirements of the competition organiser.

### 2. Arranging a Game & Player Status

2.1. Selecting rinks. No player shall play on the same rink on the same day. Penalty disqualification. Note he can play on same green. The bylaws for league require the home captain to lay the cards face down and then the away captain lays his cards on top and selects the rinks. Players cannot change between rinks after that. The order of play in a rink can be changed up to the start of the game ie the first bowl.

### 3. Starting the Game

3.1. Trial ends – note it says “before start of play”. Therefore, trial ends are before the game. It is therefore possible to change bowls, change order of a rink during the trial end, the position of the mat is optional also.

3.2. Placing the mat – If the jack is delivered and centered the end has commenced and the position of mat cannot be changed. If the mat is not at 2M and the first bowl is delivered there is nothing which can be done.

3.3. Picking up the mat before the last bowl. Law 6.2.4

3.3.1. Delivering jack into ditch, once by each lead.

3.3.2. Foot-fault. All or part of at least one foot on the mat at the point of delivery.  
Rules for breach Law 8.

3.3.3. Jack deflected in its original course. By own team redeliver opponent otherwise redeliver.

## A Brief Introduction on the Laws of the Game (cont'd)

4. Movement of Bowls.
  - 4.1. Toucher. Law 14
  - 4.2. Marking a Toucher, indication. Law 15
  - 4.3. Movement of a Toucher. Law 16.
  - 4.4. Wrong bias. Law 17.1.5
  - 4.5. Decision of live bowl. No subsequent reconsideration.
  - 4.6. Displaced Bowl. Law 37.1 by player 4 options
    - 4.6.1. Other team has options :
      - 4.6.1.1. Restore ;
      - 4.6.1.2. Remain ;
  - 4.7. Neutral object
    - 4.7.1. On its original course
      - 4.7.1.1. Replayed
    - 4.7.2. At rest
      - 4.7.2.1. Skips agree to reset head
      - 4.7.2.2. Or Dead End.
  - 4.8. During measure
    - 4.8.1. Disturbed by Player
      - 4.8.1.1. Opposing player resets.
    - 4.8.2. Disturbed by umpire/marker
      - 4.8.2.1. Umpire/Marker resets.
  - 4.9. Disturbed by a dead Bowl – reset by opposite player, marker/umpire.
  - 4.10. Lifting allowed providing such action would not influence outcome of the head.
5. Movement of Jack
  - 5.1. Live jack in ditch. Law 18
  - 5.2. Dead jack. Law 19
  - 5.3. Dead End. Law 20
  - 5.4. Bowl outside rink in contact with live Jack. Law 17.1.6
  - 5.5. Rebounding Jack – considered as never left the rink.
  - 5.6. Displaced Jack by Player. 3 options.
  - 5.7. Inadvertently produced. Opponent to reset. Note offender cannot complain.
  - 5.8. Displaced Jack by non-player. Skip agrees or dead end.
  - 5.9. Displaced by non-toucher – reset by opponent or marker or umpire.
6. Fours Play
  - 6.1. Applies to 2, 3 and 4 as well.
  - 6.2. Order of play.
  - 6.3. Possession of Rink.
  - 6.4. Position of players and duties.

## **A Brief Introduction on the Laws of the Game (cont'd)**

7. Results of End
  - 7.1. Shot and 30 second rule.
  - 7.2. Securing position.
  - 7.3. Tie “no shot”.
  - 7.4. Playing last bowl.
  
8. Game Decisions
  - 8.1. Extra End – played from where previous end completed.
  
9. Defaults of Players in Fours Play
  - 9.1. Play out of turn. Law 29.1
  - 9.2. Wrong Bowl. Law 29.2
  - 9.3. Change Bowls. Law 29.3
  - 9.4. Omitting to play. Law 29.4
  - 9.5. Substitutes. Law 32.4
  
10. Influences Affecting Play
  - 10.1. Objects on Green. Law 34
  - 10.2. Disturbance by unforeseen incident reset by agreement or dead end.
  
11. The Manager
  
12. Duties of Marker. Law 42
  - 12.1. In absence of Umpire he shall control game.
  - 12.2. Mark all Touchers when they come to rest. Do not wait for the next bowl to be delivered it may be a firing shot. Changing the way you chalk a toucher is very disturbing.
  
13. Duties of Umpire. Law 43
  - 13.1. When you have measured indicates the shot and takes it out. If it is a tied end take the jack out.

# **Appendix 4**

## **Etiquette**

# ETIQUETTE

Bowls is a sport and is therefore competitive, the desire to win is part of any sport.

Why does etiquette matter

Whilst bowls is a sport is also recreational and is used as a change from the normal hectic HK way of life. The most important part of the game is the enjoyment with winning being a bonus. If the game is not enjoyable, why play at all.

Etiquette is “the conventional laws of courtesy between players”. It has been said a game is a contest calling for courage, skill and self-control. It is a test of temper and certainly a revealer of character. It includes companionship with friends, sociability and opportunities for courtesy, kindness and generosity to an opponent. It improves not only physical health but moral stamina.

Good Etiquette

- Acknowledging a good bowl irrespective of which team played the bowl
- Respect for your opponent, showing enthusiasm, friendliness and tolerance.
- Keeping still when a player at the other end is about to deliver a bowl.
- Realising that a game is being played on adjacent rinks and considering that game as well as your own.
- Acknowledging a lucky shot played by your team.
- Respect individual Club's bye-law, such as usage of mobile phone.

Bad Etiquette

- Any breach of the laws of possession such as not being behind the jack or the mat when the bowl stops (not waiting to see the result before retiring).
- Following a jack to the head and then when you realise that you will breach possession move to the adjacent rink or bank and assume this will not disturb your opponent.
- Visiting the head when nothing has changed.
- Clapping a lucky bowl.
- Not respecting the green particularly a natural surface green by dropping the bowl rather than having a clean delivery.
- Not being ready to bowl when it is your turn.

## **Appendix 5**

### **Types of Games / Team Responsibilities**

## **Types of Games**

There are many variations of competitions in which bowlers may compete.

**Singles:** Played by one player against an opponent. Four bowls are used.

**Pairs:** Two players in each team. Two, three or four bowls may be used with each player alternating against an opponent.

**Triples:** Played by three players, each playing two or three bowls alternately against an opponent.

**Fours:** Played by four players, each playing two bowls alternately against an opponent.

The time duration, number of ends played and number bowls used for all these games will be determined by the controlling body.

## **Team Responsibilities**

**Leads:** Place the mat as required by the laws or as directed by the skip.  
Assist the skip align the jack on the centre line of the rink.  
Help to return bowls to a safe position behind the mat at the conclusion of each end.

**Seconds:** The home team second should introduce all the players to each other.  
Keep score card and scoreboard being careful to check the score with their opponent after each end.  
Help to return bowls to a safe position behind the mat at the conclusion of each end.  
After the game, return the card to the skip for signage.

**Thirds:** Be in charge of head when skips are bowling or in absence of the skip.  
If delegated to measure for shot decide with the opponent the number of shots and signal result to skip and second.  
Help to return bowls to a safe position behind the mat at the conclusion of each end.  
Answer skips queries correctly and concisely.

**Skips:** To be in charge of the team, delegate duties and notify opponent when necessary.  
Instruct the players which shot to play.  
Make decisions with opponent to comply with the laws of the game.  
Return score card to the appropriate authority.