
BOWLING PRACTISE

by **Rob Judson**
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The Potential of Practice

The term practice applies not only to bowling movements, but also to development of mental and physical capabilities. Research suggests that it takes about 1 million repetitions of a sporting skill to attain a high level in performing it. Systematic practice is the key to achieving sustainable improvements in performing skill, powers of concentration, and self-confidence. A small improvement in the performance of each player can considerably increase the scoring potential of a team or a side. The outcome of many games is not so much which team played the better, as which team wasted fewer bowls.

Practising Newly-Learned Skills

Progressive Stages of Skill Learning

The objectives of skill practice vary according to the learning stage of bowlers. Beginners may have some difficulty in delivering bowls using recommended technique. Their movements may lack fluency and consistency. At the beginning stage, they are trying to develop motor programs for bowl delivery and this is the objective of initial practice. They may exhibit learning errors or performance errors. Learning errors indicate uncertainty about the nature or sequence of movements that constitute delivery of a bowl. Performance errors are execution faults (e.g. limb misalignment, instability, etc) and are not the result of uncertainty about the required movements. Learning by trial and error has some merit. However, it entails the risk of practising and imprinting inefficient or inadvisable technique. Bowlers should eliminate any errors at the earliest possible stage.

After a few hours of coaching and practise, most beginners advance to an intermediate stage of skill acquisition. They are then able to deliver bowls in a reasonable approximation of sound technique. Occasional errors still occur, but bowlers improve in accuracy, consistency, timing, and self-confidence. Deliveries appear more fluent. At this stage, the objective of practice is refinement of their motor programs.

Months or years later, as bowlers approach mastery of their performing skills, the final stage of learning begins. Motor programs are so highly imprinted they are automatic. With seeming ease, bowlers are able to deliver with graceful and consistent fluency and obtain very accurate results. The scope for further improvement is more limited, and is usually based on the identification of subtle and seemingly minor imperfections in technique. If the bowlers make corrections, the objective of their practice then becomes the perfecting of the modified motor program.

The mastery of tactical and mental skills involves similar processes of learning, practicing, and improvement. Bowlers typically master the process of accurate delivery before they learn complementary skills. They should master accurate draw shot play before they seriously attempt to learn to play attacking shots.

Learning Bowl Delivery Technique

As bowlers initially practice their delivery technique and develop motor programs for the process, it is useful for them to have a coach available to provide informative and motivational feedback. A coach should also record observations and suggestions on a checklist containing the elements of a delivery movement equivalent to those listed below. (Usage of the terms 'left' and 'right' is valid for right-handed bowlers.)

Preparatory Positioning

- Well-practised mat laying procedure
- Right foot along delivery line
- Left foot slightly separate but parallel
- Toes about 10cm behind front of mat

Grip

- Middle finger centred on running sole
- Bowl rings upright and aligned
- Right thumb near shoulder of large ring
- Bowls suitable size & grip comfortable

Stance

- Shoulders square to delivery line
- Right arm sufficiently elevated
- Right arm extended along delivery line
- Left hand not drawing right arm off square
- Knees comfortably flexed
- Weight over balls of feet
- Shoulder line forward of toes

- Attention directed forward

Delivery Movement

- Right arm unflexed during pendulum swing
 - Left heel lifts as right arm passes hip
 - Left foot advances parallel to delivery line
 - Left foot advances a normal walking pace
 - Sufficient amount of back swing
 - Left heel grounds as forward swing starts
 - Left foot settles parallel to aiming line
 - Forward swing smoothly accelerates
 - Right knee moves to position behind left ankle
 - Left hand moves to left knee
 - Attention still directed forward
 - Bowl released at lowest point of swing
 - At least 90% of weight over left foot
 - Shoulders forward, above left knee
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- **Follow Through & Recovery**
- Right arm extended along line, palm upward
- Attention focused on moving bowl
- Recovery separated from follow through
- Steps forward off mat

If a camcorder is available, the coach should also create tapes of each client's delivery technique, accompanied by a concise appraisal, for the client to play back and study at a convenient time. This arrangement should minimise the risk of learners practising and imprinting inefficient or inadvisable technique.

At the beginning stage, bowlers should develop an efficient and consistent (or 'grooved') technique for delivering a jack. (For indoor practice, a home hobbyist could probably construct an inexpensive, portable ramp of the type shown on the final page.) Accurate bowling requires a fluent, consistent and efficient delivery for both forehand and backhand. Any technical shortcomings require correcting before practising for accuracy is likely to be productive. Bowlers should maintain their smooth and consistent technique during faster deliveries. Long ends in combination with slow greens make appreciably faster deliveries necessary on some days. Observations by a coach or on camcorder footage should disclose whether technique falters when limb movements accelerate.

There is no need for a jack or equivalent target during the beginning stage of learning bowl delivery technique. The focus should be on delivery process, not on outcome accuracy. At that stage, solo practice is normally preferable to partnered practice. Solo practice enables bowlers to retain full control of the practice environment and to exclude friendly but unhelpful distractions. A delivery preparation ritual or routine should help bowlers to maintain a self-confident and concentrated approach to the process.

Practising to Refine Learned Skills

This phase of delivery skill development corresponds with the intermediate and automatic stages of skill learning. Bowlers pay reducing attention to the efficiency of technique and increasing attention to its efficacy. Attention switches from process to outcome.

Identifying Practice Needs

In short, practice needs involve perfecting or correcting. The needs may be an element of a longer-term program for improving bowling skill, or informal, shorter-term activity for maintaining skills or eliminating identified performance errors.

The first consideration in planning practice needs for a longer-term program of development should be that of establishing the entry-level abilities of each bowler. The next consideration is the standard that each bowler realistically aspires to, and how much time each has for achieving that standard. Longer-term plans will have some identifiable, intermediate stages. Bowlers should commit to achievement of those milestones at definite points in time. They also need to agree upon what they need to learn and practice by way of technical, tactical, psychological and fitness skills for each of those stages. Bowlers who aspire to a specialist position in teams need a plan tailored accordingly.

From time to time, weaknesses will emerge in performing skills. Correction and practice to eliminate weaknesses is a continual priority. Bowlers should acquire the ability to convert weaknesses into strengths and to keep their individualised program on track. Practice requirements during a longer-term program should follow a challenging and evolving progression according to circumstances and the stage of skill attained.

For establishing their immediate practice needs, bowlers should review and identify their present performing strengths and weaknesses as a first logical step. Self-testing might pose such questions as:

- Can I identify any general weaknesses (eg. short bowling, accuracy on long ends, drawing to the ditch, etc)?
- Can I deliver the jack precisely to the distance I want?
- Do I have a weakness on either forehand or backhand?
- Do I have a weakness related to length of end?
- Do I have a weakness when a short bowl obscures a clear view of the jack?
- Does a bowl in the draw unduly distract me?
- Do I have any weakness in any of the shots – particularly shots of moderate speed?
- Do I have a weakness related to certain paces of green?
- Do elements of the competition environment upset my concentration?

Common Shortcomings of Club Practice.

Most lawn bowls clubs have prescribed periods each week when practice or 'roll-up' rinks are available to members. Bowlers who take advantage of these opportunities are typically observed to deliver all four of their bowls on the same hand to a centred jack at either end of the rink from a mat usually placed a constant distance away. In those

circumstances, there is less recognition of practice needs than of practice wants - typically enjoyment and self-satisfaction.

When bowlers share rinks during 'roll-ups', they often participate in impromptu games of singles. In those circumstances, competitiveness might sometimes provide challenges that take bowlers out of their 'comfort zone'. However, any form of practice that is not based on immediate needs, that is not clearly defined, and that is not subsequently evaluated, is unlikely to produce any particular skill development.

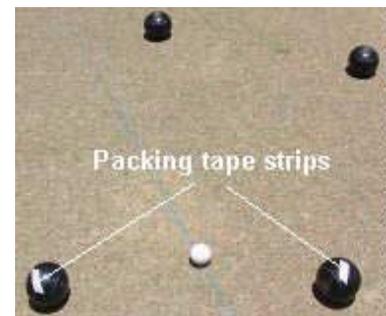
Most bowls books and manuals contain a few practice exercises. To the extent that these illustrate classical layouts for learning and practising the shots of the game, they are useful if, as is often not the case, they are well described. However, 'boilerplate' practice drills might not correct particular weaknesses and might not produce much general improvement. It is not possible to present a generic training program that inevitably provides all things to all bowlers. Practice tasks should always be structured to directly address the identified and individual needs at the time. Once practice needs are clear, precious time and energy is not spent in practising skills that do not immediately require practice.

Defining Practice Tasks

Design of practice tasks involves addressing the practice needs. Partnered practice may be more beneficial than solo practice at the intermediate and advanced stage of skill learning. This form of practice better emulates the tempo and atmosphere of a game. It also offers a competitive element to the activity, and the possibility of improvising games from the practice tasks. This is the 'game sense' approach.

There are differences between tactically sound bowling and accurate bowling. If a task requires delivering a bowl so that it comes to rest at a particular point on the rink, the essential demand is accuracy. If a task requires delivering a bowl so that it comes to rest at or slightly beyond a particular point on the rink, the essential objective is tactical soundness, i.e. avoidance of short bowling. In an accuracy test, bowls similar distances short or long should score equally. The mechanical demands of accurate bowling and tactical bowling are similar, but the objectives are not readily reconcilable and should not be combined. For accuracy, bowlers should aim for the required position. For tactical advantage, bowlers should aim for a spot about a half-metre beyond the 'required' position.

Where practice tasks involve positioning of bowls or other equipment, a clarifying diagram should support its description. Bowlers can simulate realistic practice tasks by setting heads with spare sets of bowls. Presetting of heads requires negligible extra equipment. To allow variety in the configuration of heads, at least four spare bowls are desirable. They need not be from a matched set. Any bowls will do. Coloured stickers or strips of masking tape visible from the mat would distinguish bowls for or against the bowler. Bowlers should participate in setting their own practice heads. They should also set mirror images of heads for practising both hands of play. A few practice tasks involving preset heads appear in an appendix to this article.



Essentially, defining a practice task directly addresses the practice needs, and describes what the task is and what action it requires. The definition should expressly or implicitly incorporate enough information to dispel virtually any doubts about what the task requires. Information typically required is:

- **Applicability** Beginners, novices, club competitors, and/or association players? Singles, pairs, triples and/or fours players? Leads, seconds, thirds, and/or skips?
- **Objective** What is the objective? What is the task? How is it started? How does it proceed? How does it end?
- **Time** How much time is available? How should it be allocated?
- **Setting up.** Number of bowls required? Are other bowlers involved, and how? What equipment or aids need to be in place?

Defining Task Performance Conditions

Defined conditions for task performance are closely linked with the task definition and purpose. These might include weather conditions, safety precautions, playing surface speed, presence of actual or simulated distractions or competition pressure, etc.

Condition details should indicate how the task should proceed. That information might include suggestions about how degree of difficulty can be engineered to match it with the ability of the bowler undertaking the task. Alternatively, it might include suggestions about changing task procedure to provide variety. Some examples of suggestions for variety are:

- **Draw Shot Accuracy.** Arrange a practice green with mats set at differing distances from the rear ditch and from the jack, with jacks at differing offsets from each rink's centre line, and with line of play alternating on successive rinks. This is a form of circuit practice.
- **Draw Shot Accuracy.** Arrange games that disallow driving.
- **Contested Accuracy.** Arrange 'consistency' singles' games
- **Accuracy Over All Distances.** Arrange games requiring presetting of the jack (eg 21 m for 5 ends, 34 m for next 5 ends, 28 m or random lengths for last 5 ends)
- **Simulated Increase in Degree of Difficulty.** Arrange games that disallow change of hand of play, except at the start of an end.
- **Hidden Jack.** Use a spare bowl to hide the jack after centring it.
- **Position Bowling.** Pin out a cross with 2 ribbons (2-3 metres in length) that intersect under the jack to create 4 quadrants for receiving bowls in position-bowling practice
- **Versatility and Adaptability.** Arrange games requiring teams to rotate positions (eg lead to 2nd) after a specified number of ends.
- **Tactical Decision-Making Ability.** Require discussion of team tactics at head after each half-end (after 8th & 16th deliveries)

'Phantom' Bowler

Another game that provides a team with technical and tactical practice under simulated pressure is the 'phantom bowler'. This exercise is attributed to Jimmy Davidson former English National Bowls Coach, and appears in the Scottish Bowls Coaches Manual. It has proven equally effective in Australia.

A fours team competes against a 'phantom bowler' who would ordinarily be the team coach. Team members deliver their bowls from the mat. The phantom bowler at the opposite end of the rink either places or kicks bowls into the head. The opposing skip directs the team's players from the head in the usual way. The team plays a couple of trial ends, during which the phantom bowler assesses their standard or ability. The phantom bowler 'delivers' the first bowl each end. Order of play then alternates in the usual way so that the team's skip plays the last bowl.

The phantom bowler avoids 'drawing the shot' too often. Otherwise, the team would get too much practice in attacking play, and insufficient experience at establishing, consolidating and defending a head. The phantom bowler tries to give players adequate opportunities to test their skills whatever their positions in the team. During or after each end, the phantom bowler uses open question technique to encourage positive discussion about the standard of the green, the tactical opportunities and risks that emerged, and how the team handled those challenges.

Practising the Drive

The practising of drives demands some precautions. Bowlers should correct any technique problems during practice sessions. Should they encounter difficulty in diagnosing a problem, the best course of action is to go back to the basics and work forward from there. If no coach is available, bowlers can help one another with reciprocal observation and suggestion.

Preset practice heads make good targets for driving practice. Bowlers can mirror their target practice configurations to balance forehand and backhand practise. To balance the challenge and success of practise tasks, they can vary the size of their targets. They can also vary head distances. Further, they can set front bowls to make wide drives wick towards the target.

Bowlers should make the rink for driving practice safe. They should consider using a ditch rink to practise driving. About a half of all scattering bowls should thereby come to rest harmlessly in the side ditch. They should avoid a rink behind which people congregate or there are glass panels. Flying jacks can cause harm. They should consider placing the target bowls within 2 metres of the front ditch. Scattering bowls would thereby not travel far before reaching the ditch. They should alert any players on adjacent rinks of potential danger. They should pad the face of the bank to avoid accelerating the wear and tear of the facing material.

Defining Task Criteria & Evaluation

The definition of a practice task should indicate the criteria for success in achieving its objectives. Preferably, the criteria should be stated in terms that enable comparison with other performances. Detailed criteria usually infer some system of measurement.

Performances in many sport performances require measurements in terms of distance (eg centimetres) or time (e.g. seconds). Measurements in such universal units enable evaluation of individual improvement over time, or comparison with performances of others. Linear measurement produces the most reliable indicator of lawn bowling accuracy during

practice. However, it typically requires the services of a helper. The helper needs a few seconds to measure and record the distance between each bowl delivered and the jack, or the separation between the actual track of each forcing shot attempt and the requisite track to the target.

Performances in some target sports (eg archery, shooting) are evaluated according to whichever band surrounding the target's bulls-eye each projectile penetrates. Occasionally, coaches mark (eg with chalk) an equivalent target on the surface of a green to enable practising bowlers to aim for a jack centred in the bulls-eye. The main advantage of such practice targets for bowling practice is that the result of each attempt is available quicker than if measuring. Bowlers earn 'points' according to the band in which each bowl comes to rest. The main disadvantages are that there are no widely accepted standards for target size and configuration or for scoring scales. Some coaches set up other practice tasks that likewise earn points according to how closely each bowl achieves its intended purpose. Again, lack of standardized practise tasks and scoring systems means that aggregate points normally have only local and temporary meaning. Scorecards for games (eg singles) produce totals expressed in points. However, they convey even less meaning. They indicate which player finished closer to the jack more often, but do not indicate even an approximation of the average distance from the jack of the finishing points of each player's bowls.

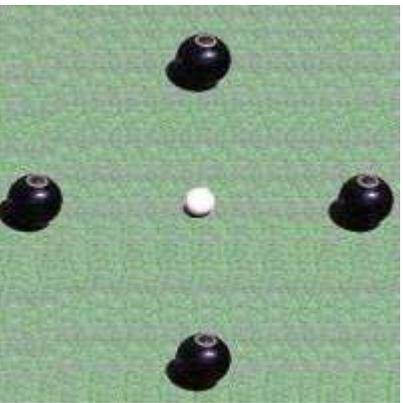
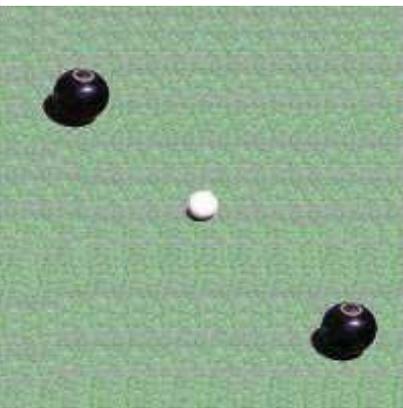
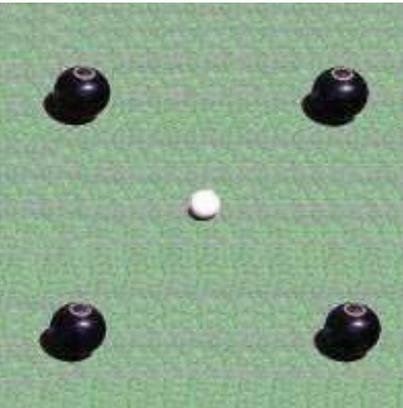
Scores expressed in universal linear measurement scales are very much more reliable for comparing performances. They offer 'benchmarks' for development and improvement programs. The measured result for a practice session is commonly the arithmetic average result of all attempts, including any that resulted in bowls finishing outside rink boundaries.

Results of each practice task enable and warrant a process of review. In setting expectations from practice, bowlers should recognize that plateaus sometimes occur in the rate of skill improvement. Causes of setbacks in improvement may include cognitive changes (e.g.: changed method of selecting aiming angle), technique changes (e.g.: altered grip), psychological problems (e.g.: anxiety), or physiological problems (e.g.: ill health). Temporary plateaus in skill improvement are normal and should not affect the process of setting objectives for self-development. The outcomes of practice typically disclose current strengths and weaknesses, and indicate an appropriate focus for the ensuing practice session.

Appendices

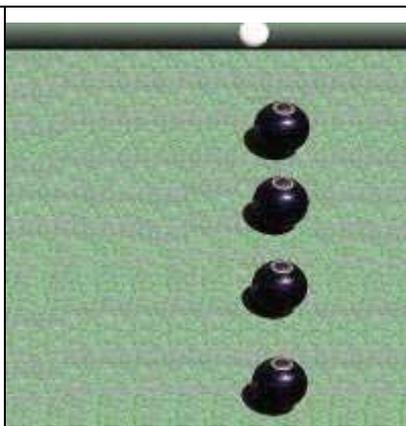
Practice Head Examples

A few examples of practice heads follow. Bowlers obliged to practise alone on a single rink can set similar practice heads, changing the task as required.

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|---|---|
| <p>Example 1</p> <p>Set bowls about 1.25 metres from the jack at 3, 6, 9 & 12 o'clock, as shown. The front bowl might partly or wholly obscure the jack. The player currently has four 'shots'. In these circumstances, overconfidence or anticipation of a large score can result in inattention or increased excitement or arousal and failure to make relatively easy shots. The objective is to avoid any distractions to draw a fifth shot. By way of variation, the player should imagine the opposition has the four shots. In those circumstances, nervousness about the tactical situation or fear of failure could produce an unsuccessful attempt at a relatively easy conversion. The objective is to avoid any distractions to draw into the centre of the head, converting the position from 4 down to 1 up.</p> |  |
| <p>Example 2</p> <p>Set 2 bowls about 45° to the centre line and 20 - 50 cm from the jack. The player currently has two 'shots'. At such an early stage of head development, there are a variety of realistic options, including positioning a bowl to receive the jack, if moved. The objective is to evaluate different options at that stage (in singles, fours, etc). Nominate preferred option and play accordingly. By way of variation, the player should imagine the opposition has two 'shots'. Again, there are a variety of realistic options, including a draw into the head, converting 2 down to 1 up.</p> |  |
| <p>Example 3</p> <p>Set 4 bowls about 45° to the centre line about 1.25 metres from the jack. The two front bowls partly block access into the head. The player currently has four 'shots'. As in example 1, the objective is avoiding any distractions to draw a fifth shot. By way of variation, the player should imagine the opposition has the four shots. In these circumstances, options may include not only drawing to convert, but also to attack, particularly if bowl spacing is such that the head constitutes a relatively easy target. The objective is then to evaluate different options, to nominate the preferred option and to play accordingly. Another variation might require the player to imagine that bowls on one diagonal belong to opponents and those on the other diagonal do not. Without measurement, the owner of the closest bowl is an uncertainty. The objective is again to evaluate the different options, nominate the preferred option and to play accordingly.</p> |  |

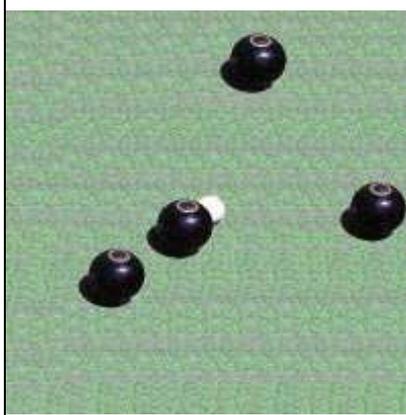
Example 4

The jack is in the ditch. Opposing bowls (in a right-angled line) are 60 cm (2 ft), 1.2 metres (4 ft), 1.8 metres (6 ft) and 2.4 metres (8 ft) from the ditch. The player is currently 4 shots down. Drawing to reduce the count may be safer than drawing for the shot. If the bowl runs into the ditch, there are no shots saved. The objective is to draw to the rearmost bowl to save shots and possibly convert to 1 shot up.



Example 5

An opposing bowl rests on the jack. Another opposing bowl is less than 0.5 metres in front of and wide of the resting bowl. The player has two nearby bowls on the opposite side of the head. A slight impact against the resting bowl could cause the jack to cannon away from the opposing bowls towards the player's bowls. The objective is to draw to an imaginary jack about a metre through the resting bowl. The resulting impact should have just enough force to move the jack across the head towards the two receiving bowls.



Players should clear any bowl that comes to rest in a position that changes the character or degree of difficulty of a particular exercise. They should normally reset a disturbed head.

Thirds and skips, in particular, can simulate realistic competition situations by setting heads with spare sets of bowls. Practice for play in a team should include all the shots that the relevant team position might require. Therefore practice heads for fours play should contain up to 3, 7, 11, or 15 bowls for leads, seconds, thirds and skips, respectively. For all shots, organized practice is the key to sustainable performance improvement.

Indoor Practice Ramp



The left view shows the ramp, which has a curved bed of 4 mm plywood overlaid with 12 mm foam. The foam is bevelled at the 42 cm wide mouth of the chute to remove any ridge at the edge. The image also shows the strip of 12 mm foam that cushions the top piece of the ramp housing. The maximum height of the ramp is 62 cm. The sides, top and swivelling leg assembly are of 18 mm plywood. The rear view on the right shows the 4 mm ply base of the ramp. It also shows the upper and lower rails that bridge the 47 cm-long legs. The top rail is of 18 mm ply, the bottom rail is 16 mm dowel. The 18 mm ply pieces are all about 55 mm wide. The final view shows the ramp when folded. The dip of about 95 mm at the centre of its 92 cm curved length is clearly visible.

