# "Anticipation and Deception in Squash"



## by Roger Flynn

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## INTRODUCTION

*"...you may fool all the people some of the time; you can even fool some of the people all the time; but you can't fool all of the people all the time."* **-** Abraham Lincoln

Anticipation and its antithesis, deception, are inherently linked perceptual motor skills that have traditionally been learned by experience (trial and error) and, in the case of deceptive techniques, mostly by luck or by observation and imitation of advanced deceptive players.

Both can be developed more competently and more rapidly by providing a systematic, structured series of repetitive activities that progressively overload the perception and decision-making skills involved.

### Anticipation

The accompanying graphs (Figures 1 & 2 at the end of this article), taken from Gill (1994) demonstrate that "expert" players can predict the opponent's shot to a very high accuracy level up to 600 milliseconds before impact. The graphs also point towards the important cues for making anticipatory decisions - movement of the arm and racquet especially 160-80ms before impact and the flight of the ball immediately (up to 80ms) after impact. In fact, Abernethy and Wollstein (1989) showed that the two main sources of information that are used by expert players are:

1. Probability - the opponent's strategic habits, the opponent's technical abilities and his/her court position;

2. Postural cues given off by the opponent - specifically the arm and racquet movement leading up to contact with the ball.

Research has shown that expert players do not have better "vision" than beginners nor do they look at different cues to beginners when searching for information on which to base their decision about what is about to happen (Abernethy, 1987). Rather, expert players appear to make better use of the information available - especially with regard to the opponent's arm and racquet action.

Expert players also identify or pick up patterns of play better than beginners. Introducing different patterns of play reduces the capacity of experts to predict or anticipate.

Anticipation skills range from the simple - predicting the bounce of the ball, through to the ability to read the play sufficiently well to volley a fast paced ball hit from the front court by a "deceptive" player. These skills become automatic with experience but traditionally, we have only developed these skills by playing matches.

### Deception

Observation of expert players reveals a number of techniques that they use in order to deceive their opponents. Some of these skills are used to create an environment in which the opponent deceives him or her self and others take advantage of situations on the court to play a shot which is unusual in those circumstances.

These techniques can be summarised as follows:

1. Hiding the contact and the period immediately before impact from the opponent by use of the body (this has implications in the basic skills that are commonly taught to beginners and advancing players);

2. Use of unorthodox variations of wrist, forearm and grips to change the outcome of the stroke at the last moment (ie. within 160ms of impact) after providing initial misleading information;

3. Deliberate use of set "patterns of play" to increase the probability (in the opponent's mind) of continued use of that pattern;

4. Increasing "tempo" of match play in order to create less time for the opponent to get to the next shot - forcing them into anticipating earlier and earlier;

5. Use of "body language" to mislead opponents and to set up misleading patterns of play;

Another very sophisticated form of deception, readily observed in expert players, is what I call "timing deception". One of the most important skills in sport is timing. Not only the "co-incidence timing" of making contact with the ball, but also the timing skill of knowing just when to get "set" to move to or strike the next shot. For example: players typically "bounce" while waiting for their opponent to strike the ball and the timing of their (typical) "split-step" is critical to successfully taking off to the ball, as is the timing of their pre-stretch of the muscles to be used to strike the ball.

Wollstein and Abernethy (1988) provide evidence of a common timing characteristic that indicates the time between the commencement of the downswing (forward swing) and contact is consistent across all players and that the downswing generally commences as the ball reaches the top of the bounce - i.e. that the time between the top of the bounce and contact is constant. In order to upset the opponent's preparatory timing (which is based on an intrinsic understanding this constant timing), the deceptive player utilises techniques that obscure the commencement of the downswing from the opponent so that the opponent is unable to prepare adequately to react - ie. the opponent is not able to appropriately time the various "stretch-shortening" cycles throughout the body to enable explosive reactions. Techniques such as adding various movements to the commencement of the downswing and/or keeping the racquet in constant motion are commonly utilised.

## TRAINING ACTIVITIES TO DEVELOP ANTICIPATION AND DECEPTION SKILLS

The article *"Designing Perceptual Motor Skill Development Programs for Squash"* (Flynn, 1995) includes a number of tables indicating the progression and type of training activities that should be utilised to develop anticipation and deception skills.

By definition, all anticipation and deception drills must be performed with a partner in order to provide intrinsic feedback regarding the success or failure of the deception or anticipation. In some activities/situations the coach must provide verbal feedback as the subtlety of the situation and the players' positions may prevent the observation of the results of their efforts.

### Beginners

Absolute beginners should be introduced to a range of "acclimatisation" activities which develop their understanding of the way the ball rebounds in various situations from bouncing on the floor to rebounding of one, two and three walls. Similarly, they will progressively develop basic anticipation skills by practicing drills that incorporate a varied feed in height, pace and direction as well as requiring the player to strike the ball at consistent heights or positions so that they are required to continually analyse the situation before committing to their approach.

Fundamental ball handling skills, such as those outlined below, will further enhance the player's hand-eye, hand-racquet-eye understanding through enhanced ball flight tracking abilities. These activities are common in some physical education programs and are demonstrated in two video tapes produced by the German Tennis Federation called: *"Koordinationstraining im Tennis"* and *"Fitnesstraining für Tennisspieler"*.

#### Throwing-Catching Activities

Ball throwing and catching skills using both left and right hands using balls of different sizes and bounce. Combined activities such as throwing the ball into the air, spinning around and then catching it, dribbling the ball over a bench, etc.

#### Bat and Ball Activities

As described for throwing and catching above, using racquets of different shapes and sizes to propel the balls instead of throwing as well as using multiple bats.

#### Multi-Ball Activities

Throwing-Catching and Bat and Ball activities using two, three and more balls and a variety of implements including the hand, to propel the ball.

The following is a list of activities that I have adapted to a squash environment from the previously mentioned videotapes. Some are further described in the following section on squash specific activities:

- Keep multiple balloons in the air using hands;
- Throw ball, roll forward and catch ball;
- Keep multiple balloons in the air using bats;
- Pairs hit ball into the air and toss bat to partner to return;
- Bouncing balls two at a time, then using two different balls;
- Bouncing two balls at a time over a bench;
- Throwing balls into a bucket (depth perception);
- Hitting balls into a bucket;
- Hitting two balls into the air using bats/racquets and then using two different bats/racquets - ie. squash racquet and racquetball racquets;
- Hitting two balls into the air with two different racquets and changing hands;
- Hitting a ball against the wall with two racquets - alternating sides;
- Hitting a ball against the wall with two <u>different</u> racquets - alternating sides;
- Balancing on medicine balls while throwing/hitting/catching;
- Balancing on wobble-boards while throwing/hitting/catching;
- Coach holds two balls (one in each hand) and randomly drops one ball onto the floor. Player must run and hit the ball before two bounces;
- Coach holds two balls (one in each hand) and randomly drops one ball onto the floor. Player must run and <u>volley</u> the ball;
- Under and Over - player must pass the racquet behind and through the right leg then around and through the left leg before hitting the ball continuously against the wall;
- Hula Hoop Runs - players run through the hoops with one foot in each hoop; then two steps in each and two in between, etc;
- Roll hoop and step through while it rolls then bounce ball at the same time;
- Bounce ball with feet;
- Co-operative hitting of two balls at same time to each other;
- Catch balls with racquet and return in one movement: f/h & b/h, left & right hands, catch and return around body;
- Co-operative hitting:
    - hit ball into the air (to self) before returning to the other player
    - hit ball into the air (to self) before returning <u>around back</u> to the other player;
- Rallying:
    - both players must hit the ball with their forehands only
    - both players must hit the ball with their backhands only
    - both players must play a forehand if the ball is on the backhand side of the court and vice versa.

## Squash-Specific Multi-Ball Activities

Multi-ball activities which emphasise peripheral awareness, ball tracking and concentration (shifting focus), etc. These are further adaptations of some of the above activities:

### Two-Ball Bouncing

Bounce two balls into the air or onto the floor at a time with two racquets - one in each hand. Count record. Use different racquets and balls.

### Two-Ball Driving

Player drives two balls alternately down the wall trying to keep both balls in play. Count record on f/h and b/h.

### Two-Ball Volleys

Player volley-drives 2 balls alternately down the wall trying to keep both balls in play. Count record for f/h and b/h.

### Two-Ball Slashing

Players stand on each side of the court in front of Short Line with a ball each. Each plays a cross-court above the Cut Line and volleys the partner's ball back. Count continuous record for pair on f/h and b/h.

### Slashing with "Innovation"

Set up as for "Slashing". Using one ball, players hit crosscourt to partner with every third shot requiring "innovation" - ie. hitting ball between legs, behind back, left handed, etc. 5 mins each side. Score a point for each shot that opponent does not duplicate within 1-3 attempts.

### Two-Ball Figure-Eights

Stand 1 metre behind "T". Drive into corner to rebound back to "T" while driving second ball after first. Continue into opposite corner. Count record of successive corners.

### Racquet Swaps

Players stand on each side of court in service boxes with one racquet to be shared between them. Player 1 hits a ball crosscourt then tosses racquet to player 2 who hits ball back and returns racquet. Count record for pair and then swap sides.

### Three-Ball Driving

As for Two-Ball Driving using three balls. Count record.

### Four-Ball Driving

As above using four balls. Count record.

### Two-Ball Length Game

Play a game with two balls. All shots must land behind the Short Line. Players lose the rally if they fail to return either ball, either ball fails to get over the Short Line or is hit below the Cut Line. Play a game to 9 points

### Two-Ball Racquet Swaps

Players set up as for "Racquet Swaps" (above) but each player has a racquet. Both players hit a ball crosscourt and swap racquets. Count record for pair and then swap sides.

Other activities which emphasise anticipation, peripheral awareness, speed/agility and can be used for speed/reaction training as follows:

### Random 6-Point Movements (Ghosting)

Six-point Movements which are directed by the coach who indicates by pointing which corner to run to. Further difficulty can be added by the coach calling the corner while indicating with the arm - not necessarily the same corner. Sets of 1 minute each player with 1-2 minutes rest.

### Dog and Ball

Coach/Feeder stands near "T". With racquet, coach knocks ball along floor at various angles and speeds. Player attempts to stop ball from touching walls with 5 second extra time as penalty. Sets of 1 minute each player with 1-2 minutes rest.

### Dog and Ball (2)

Player stands behind Short Line facing front wall. Coach/feeder stands behind player with 6-10 balls in hand. Coach throws balls 1-3 at a time over player's shoulders towards front and side walls at random. Player attempts to stop ball from touching walls. Penalty as above. 3-6 sets of 6-10 balls each player.

**Squash Specific Advanced Drills**

*Lateral Anticipation/Deception:*    *When the player is trying to anticipate whether the ball is going to the left or right side of the court (in other words: Is it going to be a forehand or backhand?).*

*Longitudinal Anticipation/Deception:*    *When the player is trying to anticipate whether the ball is going to the front or the back of the court.*

Any drill or activity, designed to stimulate improvement in the anticipation/deception skills of a player, needs to address the various situations that a player can be in and still expect to anticipate or deceive effectively. For example: When the opponent is in the front backhand and the player is on the "T" or when the opponent is in the back forehand corner with the player on the "T".

The opponent may also be restricted to lateral deception (straight or cross-court shots), longitudinal deception (short or long shots) or a combination of both. The shots chosen can be restricted or varied as well.

Wherever possible, it is also important to construct these drills so that the "anticipating" player must respond with a tactically sound response.

As the players progress, the following drills and routines, which are extracted from a booklet and accompanying video published by Flynn (1992), will provide a starting point for developing squash-specific anticipation and deception skills.

### Quarter Court

Player 1 (or Coach) stands in either back quarter-court and plays shots at random around the court. Player 2 must chase and return the ball into the quarter-court by whatever means available - driving, lobbing, etc. This is a simple exercise for beginners and advanced players which stimulates deceptive moves in both players and encourages Player 2 to anticipate.

### Random Drive and Boast

Player 1 (or Coach) stands in either front corner. Player 2 must start on and return to "T" between each shot. Player 1 plays hard, straight or crosscourt drives to length which Player 2 attempts to chase down and hit a two-wall boast onto a target (usually a spare racquet placed centrally on the front wall). As he/she improves, Player 2 is required to volley boast and if unsuccessful then to run back and boast.

### Drive and Boast or Drop

Player 1 (or Coach) stands in either back corner. Player 2 must start on and return to "T" between each shot. Player 1 plays either a straight drop or a boast that Player 2 attempts to chase down and then to play a straight drive.

### Random Drive and Boast or Drop

Player 1 stands at the front. Player 2 must start on and return to "T" between each shot. Player 1 plays hard, straight or crosscourt drives to length which Player 2 attempts to chase down and hit either a straight drop shot or a two-wall boast onto a target. As he or she improves, Player 2 is required to volley boast but, if unsuccessful, to then run back and boast or drop.

### Straight Game

Both players must hit the ball down one side of the court using either a straight drive/lob or a drop shot. Players score as in a normal game. A "designer game", which invites the players to learn to disguise these shots and to combine them tactically while anticipating the opponents attempts to do the same, in a restricted environment.

### Slashing

Player 1 (or Coach) takes one side of the court and Player 2 takes the other side. Both remain in front of the Short-line and attempt to hit the ball past the other between the player and the wall next to them for a point. Play a game on each side. Good as a warm-up and to improve

hand and eye co-ordination as well as anticipation skills with regard to ball tracking and prediction of flight path.

### Reflex Volleys

A high level drill designed to improve anticipation and deception practice and to discourage "guessing". Player 2 remains in front of the Short-line. Player 1 (or Coach) stands at the rear of the court on either side and plays medium-paced, underline deceptive, straight or crosscourt drives at random. Player 2 attempts to intercept every ball and drive straight. This exercise can be performed by three players using two at the back against one in front. Score by timing how long Player 3 survives before 10/20/30 shots get past him/her.

### Front Court Driving

Player 1 (or Coach) stands on or slightly in front of the Short-line and plays drop-shots (or boasts) to either front corner. Player 2 attempts to retrieve the drop and play a straight or crosscourt drive (as appropriate) to the same side as Player 1 is standing. This difficult routine is excellent for practicing anticipation, early preparation, fast movement, recovery and eye contact for the "driver", and is a great anticipation/co-ordination exercise for the "volleyer".

### Around-The-Court

This exercise provides an easy means to assess or pressure every skill in a player's game.

Player 1 (or Coach) takes an appropriate position in one of the extremities of the court with Player 2 on the "T". Player 1 plays shots at random around the court, while nominating a shot for Player 2 to execute. Player 2 must play the shot called (no matter how difficult) with the appropriate footwork, technique and accuracy, before recovering to the "T". Weaknesses become very apparent and the circumstances can be duplicated at will or a more specific routine/drill can be utilised to work on any problems uncovered. As a two man exercise it also provides an opportunity for the "feeder" to practice shots/deception, while due to the difficulty of the exercise, Player 2 is encouraged to practice their anticipation. This exercise can be utilised to duplicate the levels of pressure of a much higher playing standard than that which the coach is capable of playing.

### 3-Man Front Court Reflex Volleys

Player 1 (or Coach) stands at the front of the court. Player 2 must remain on the short line throughout. Player 3 remains in the back of the court. Player 1 plays (as deceptively as possible) straight or crosscourt drives. Player 2 attempts to intercept and drive straight down the wall. Player 3 slow boasts a "set-up" to the front, for Player 1 to repeat. Another excellent exercise which provides high level anticipation and deception practice. Score by timing how long Player 3 survives before 10/20/30 shots get past him/her.

### Back Court Winners

Players 1 and 2 take a position behind the service box on each side of the court and attempt to hit a variety of winners at the front of the court while Player 3 attempts to make a good return to the back of the court. Play a game with points scored for winners (not errors) and for hitting targets set at the back corner of each service box. This exercise places a lot of pressure on the shot players while providing them with basic anticipation and deception practice opportunities. At the same time, Player 3 is provided with opportunities to practice effective anticipation and deception skills also.

### 2-On-1 Volley Drops

All players are positioned in front of the short line. One player on each side and one in the centre. The two outside players drive as awkwardly as possible through the middle of the court attempting to force the centre player into error, or to get the ball past him for a point. The centre player attempts to intercept every ball and can only score a point by hitting a clean winning drop. Anything outside the inside line of the service boxes is the responsibility of the two outside players. Any ball between the two service boxes is the responsibility of the centre player. Extremely difficult anticipation exercise.

## IMPLICATIONS FOR COACHING

While the player is being trained in these activities, it is important for these skills to be tested under gradually increasing pressure - up to and including full matchplay.

The patterns described in the accompanying article, *"Tactics and Strategy"*, are ideal activities for this purpose - especially once the patterns become "random", "options" are added and the player may make use of "phasing", "extended phasing" and "reverse phasing".

The ability to identify the ball's intended flight path as early as possible in the opponent's stroke while confusing or blocking the information available to the opponent are fundamental skills of the sport which, in turn, contribute to a third skill - effective shot-selection.

This integration of the three fundamental decision-making skills of our sport in appropriate training activities provides the ideal learning/developmental approach to the preparation of all players - not only high performance players. As Abernethy (1995) says, expertise is task-specific and context sensitive. It is important, then, that the activities are carried out in as close to matchplay conditions as possible.

The three decision-making skills are intrinsically linked and it is the obligation of the coach to provide systematic, progressive programs for the player to develop these skills from the very beginning of their involvement in the sport. They are not "advanced skills" but skills that are necessary to become an "expert".

It is also the obligation of the coach to develop fundamental striking and movement techniques that facilitate the development of deception skills - particularly the capacity to hide the contact from the opponent. The implications of using various grips and swings must be introduced early in the player's development and the coach must take an imaginative approach to drill design so that these decision-making skills are integrated into all activities.

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## REFERENCES

Abernethy, B. & Russell, D.G. (1987). *The relationship between expertise and visual search strategy in racquet sport*. Human Movement Science, 6, 283-319.

Abernethy, B. & Wollstein, J.R. (1989). *Improving anticipation in racquet sports*. Sports Coach 12(4), July-Sept 1989, 15-18, Australian Coaching Council, Canberra, Australia.

Abernethy, B. (1994). *The nature of expertise in sport*. In S. Sidonio, J. Alves & V. Pataco (Eds) International Perspectives in Sport and Exercise Psychology. Morgantown, WV: FIT Inc., 57-68.

Flynn, R. (1992). *One, two, three & four man squash routines/patterns*. Video presentation with accompanying booklet of on-court routines and patterns featuring Anthony Hill, Phillip Larmer, Alistair Perry and Troy Jones. Roger Flynn Squash Coaching, Victoria, Australia.

Flynn, R. (1995). *Designing perceptual motor skill development programs for squash*. Australian Squash Coach 3(1), 16-19.

Gill, D. (1994). *Expert-novice differences in cue utilisation in 'on-court' squash performances - practical coaching implications*. Australian Squash Coach, 2(2), 15-19.

Wollstein, J.R. & Abernethy, B. (1988). *Timing structure in squash strokes: further evidence for the operational timing hypothesis*. Journal of Human Movement Studies, 15(2), 61-79.

*Fitnesstraining für Tennisspeiler*. Videotape. German Tennis Federation (1995).

*Koordinationstraining im Tennis*. Videotape. German Tennis Federation (1995).

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## ACCOMPANYING PAPER

Flynn, R. (1996). *Tactics and Strategy*. Paper presented to the 9th Squash Australia/PSCAA National Coaching Conference, Australian Institute of Sport, Canberra, 15-17 November 1996.

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