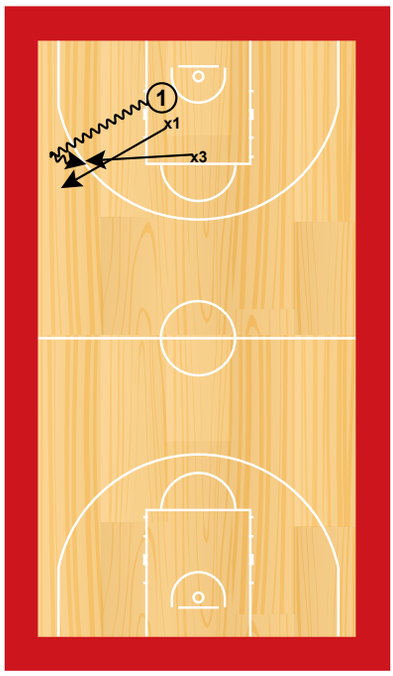
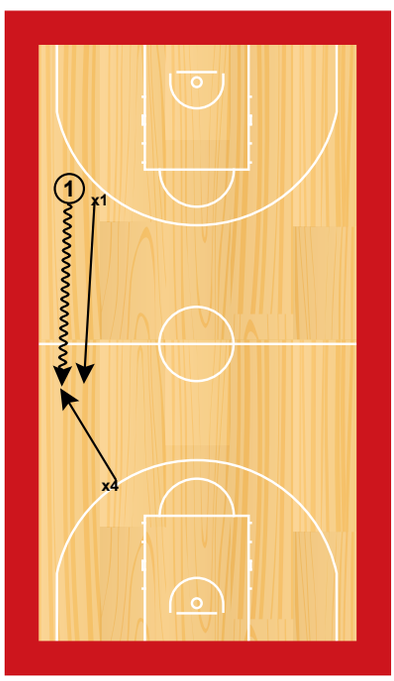


When defending full court the dribbler may be forced toward a sideline by x1 and then "turned" (made to change direction). A second defender (x3) may move from the split line to "trap" or double team the dribbler as they attempt to change direction.

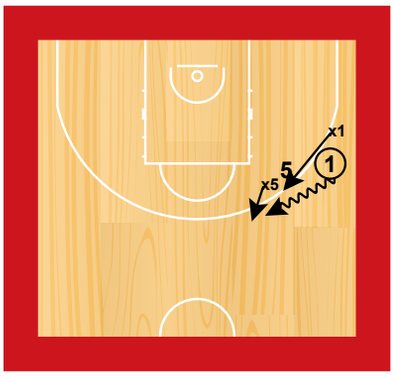
This is most effective when the dribbler uses a "reverse spin" dribble, momentarily losing sight of the help defender.



Another technique utilised in full court defence is to the "channel" the dribbler along a sideline and for a help defender (x4) to move up the court to double team them.

Again, the double team might be effective if the dribbler is looking down and does not see x4.

x4 must move quickly to set the double team. Teams will often "trap" (or double team) near the half way line, as this places additional pressure on the dribbler (as they cannot move back).



Many teams opt to double team a dribbler as they use a ball screen which can negate their ability to shoot, penetrate or pass.

The most important thing when setting a double team is for the two defenders to move decisively and in unison. A double team against a player receiving a pass is most effective when it is set as they catch the ball, which requires the defenders to move into position as the ball is in the air. This prevents the offensive player from taking "evasive" action (e.g. passing, dribbling or shooting).

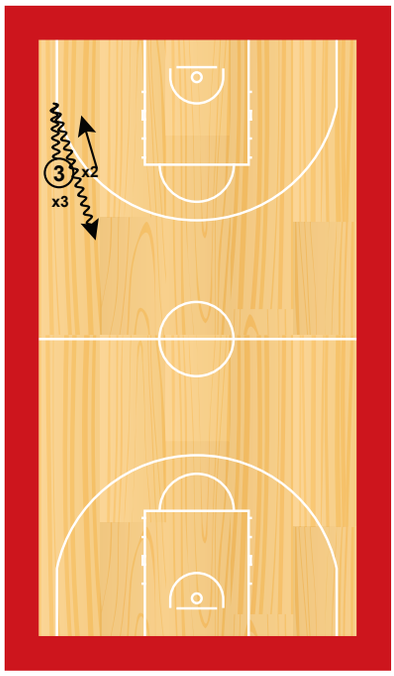
Similarly, when setting a double team against a dribbler, the defender must move quickly to get to position, otherwise the dribbler can change direction or pass the ball.

One of the most effective passes that an offensive player can make when they see that a double team is coming, is to pass to their team that was being defended by the defender now moving to double team.

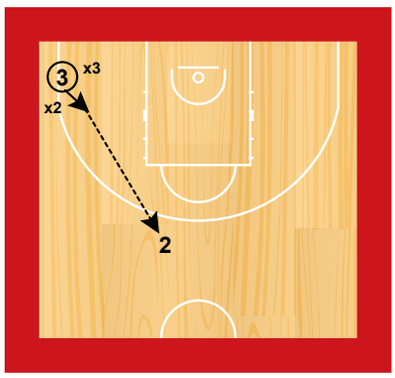
Double teams are often most effective when set near the sideline, baseline or half-way line as this can act as another defender restricting where the player with the ball can move. The two defenders should stand close enough to each other so that the offensive player cannot step through any gap.

The defenders should also keep their hands high and active, but not reaching for the ball. If they reach for the ball it will often result in a foul being called on the defender. The purpose of a double team is to apply pressure on the defence and possibly create a turnover through the offensive player:

- committing a 5 or 8 second violation;
- throwing a pass that is intercepted (by one of the other defenders, not the defenders in the double team);
- stepping out of bounds or committing a backcourt violation (if the double team is near half way).



If the offensive player does dribble away from the double team it is important that both defenders move because if only one defender moves it can create a gap that the offensive player can move through.



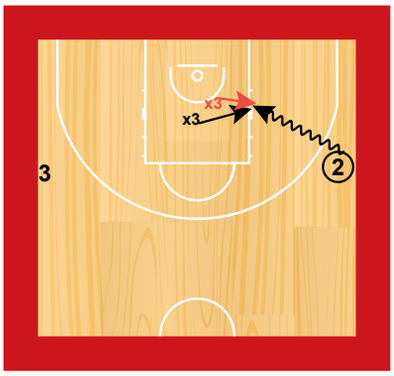
Similarly, the defenders setting a double team must ensure that they remain close to each other, so that the offensive player cannot "split" them or step between them

Whenever a team double teams it leaves one offensive player undefended or a situation where a defender is responsible for defending two offensive players.

The coach must ensure that the players clearly understand the rotations required.

1.1.4 PRESSURE DEFENCE - ANTICIPATING OFFENSIVE MOVEMENT

"Quickness" in defence is often very different to the speed at which a defender can move. More important is the defender's ability to correctly anticipate what will happen and to move in anticipation before it has actually happened.



x3 starts on the "split line" and is responsible for rotating and stopping any dribble penetration by 2. If x3 remains in the middle of the key, it will take 2 or 3 steps and if they do not move until 2 starts to dribble, x3 may struggle to stop them.

However, if x3 anticipates that 2 is going to dribble and moves toward that side of the court (shown in red) then they will be quicker to stop the rotation as they don't have to move as far.

Coaches should give players many opportunities to practice anticipating what the offence will do and adjusting their position accordingly. Coaches must accept that the players will get it wrong sometimes, for example:

- moving too far (and leaving their own opponent open);
- not moving enough (and then not being able to get into position when the offence do move).

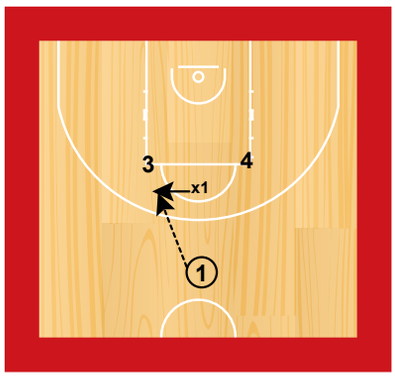
Making these mistakes is an important part of learning about optimal positioning. Where a player makes a mistake the coach should use questions to help the player identify what they could have done differently. If the coach simply tells the player what they should do, then the player does not develop their own ability to "read" the situation (and move accordingly) and really only learns that they should not trust their own instincts.

The coach can help the player to understand some "cues" that will help them to correctly anticipate what the offence may do, such as:

- Ball position – if the player holds the ball at chest level or above, they are more likely to pass than dribble;
- Chest position – the direction that a player's chest is facing is most likely where they would pass or move;
- Stance – if a player has straight legs, they are more likely to pass than dribble;
- Ball side – whichever side a player is holding the ball is the side to which they are likely to pass or dribble;
- Defender's position – the offensive player is likely to move away from wherever their defender is standing (e.g. if a defender is on the right hand side of the offensive player, the offensive player is likely to pass or dribble to their left).

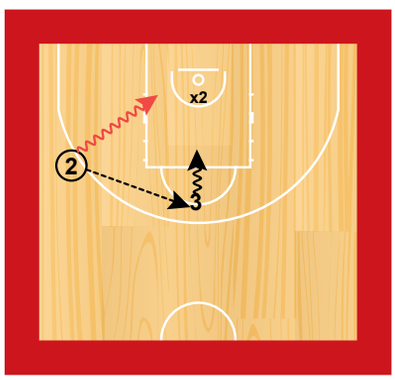
The defender may only move one or two steps in anticipation, but this can make a significant difference to their ability to "quickly" get to the next position. When the defender moves in anticipation they must move both, feet not simply lean to one side. Leaning makes them slower to act, as they first must return to a balanced position.

Some activities that help provide players with practice to anticipate the offence are set out below.



Players 3 and 4 must stand still and be ready to catch a pass from 1. 1 can pass to either player and x1 must try to deflect the pass. x1 should be prepared to move one way or the other in anticipation of where the pass is going.

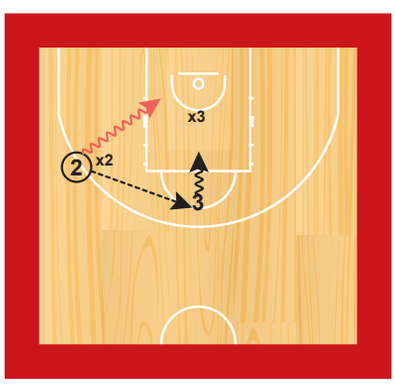
A defender can also be added on the passer.



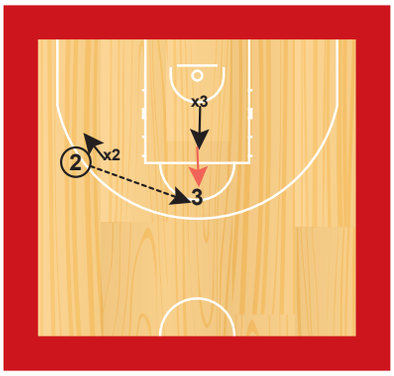
2 can either dribble into the key or may pass to 3 who attempts to dribble into the key. x2 attempts to stop both players from dribbling into the key:

- If x2 believes that 2 will dribble, they should move 1 or 2 steps toward 2;
- If x3 believes that 2 will pass to 3, they should move 1 or 2 steps toward 3.

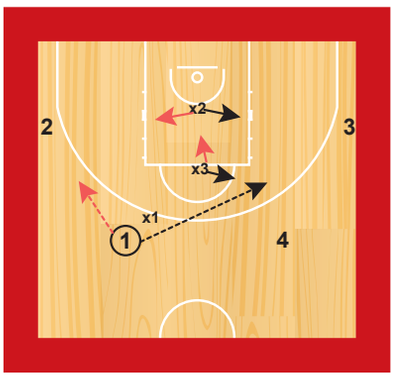
2 is limited to 2 dribbles and 3 is limited to 1 dribble.



A defender can then be added to defend 2, which is an additional factor for x2 to take into account.



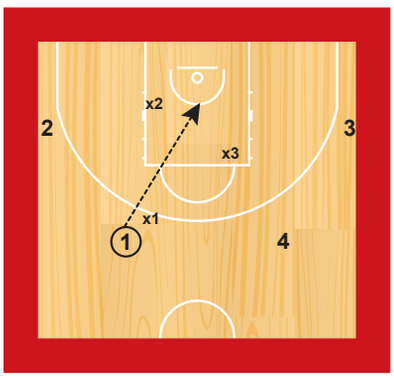
If x2 moves to stop 2 from dribbling toward the baseline, x2 can move towards 3, reducing the distance they need to move when the ball is passed (shown in red).



The defenders (x1, x2 and x3) must always have someone defend the ball – the other two defenders start in the key, but can then choose their own position.

The offensive players simply try to dribble into the key but can only start to dribble if there is no close defender (have the defenders touch the offensive player to demonstrate they are there).

The defenders in the key are encouraged to anticipate where the ball will be passed and take a step or two in that direction, so that they are then close enough to close out and stop any dribble. Shown on the diagram are movements the defenders might make if they anticipate different passes (movement is shown red and black).



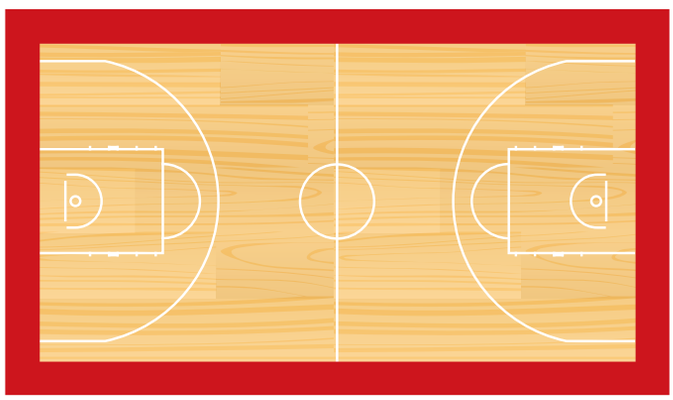
The coach may stand under the basket to provide a passing target for the players. This requires the defenders to move together.

For example, x1 is standing to force the pass toward 2 and x2 moves toward them in anticipation. However, if x3 moves toward a pass across the key, this enables a pass to be made to the coach.

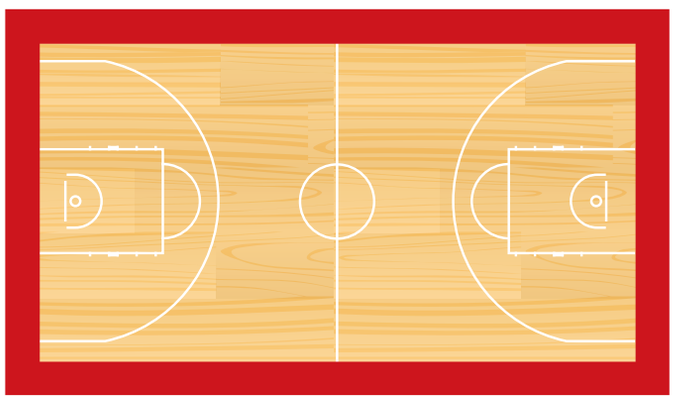
Instead, as x2 moves toward 2, x3 may move down toward the coach to pressure the pass.

FOLLOW-UP

1. Assume that you are playing an opponent this week that has a dominant low post player:
   a. Would you consider "fronting" that post player?
   b. What factors did you take into account in reaching that decision? Discuss with your assistant coaches what they think.
2. Show the areas on the court where your team will try to double team opponents (when playing pressure defence):



3. Describe an activity that you use to teach double team technique? What teaching points would you give offensive players?



4. Discuss with a coaching colleague how you can improve a player's ability to anticipate what the offensive team is going to do.

LEVEL 2

PLAYER

CHAPTER 2

OFFENSIVE BASKETBALL SKILLS

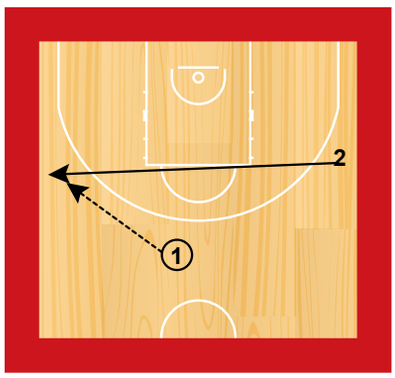
CHAPTER 2

OFFENSIVE BASKETBALL SKILLS

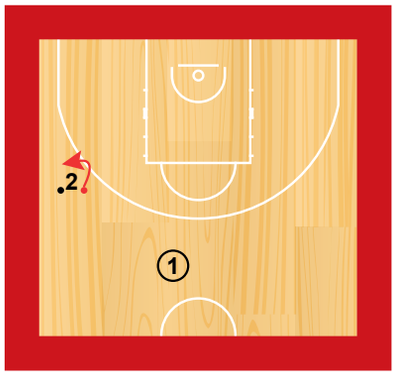
2.1 GETTING OPEN FOR THE BALL

2.1.1 HORIZONTAL CUTS

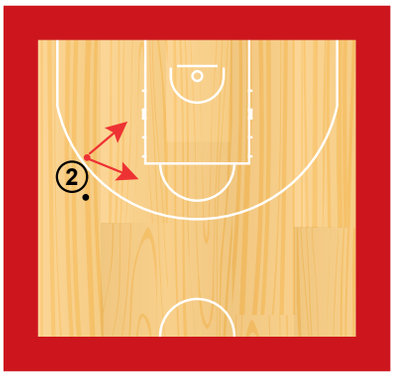
Players are initially taught to receive the ball either as they cut towards the ball or as they cut towards the basket. On a cut towards the ball, facing the basket is usually done with a forward pivot. More experienced players and teams will utilize "horizontal" cuts, often from one wing to the other wing.



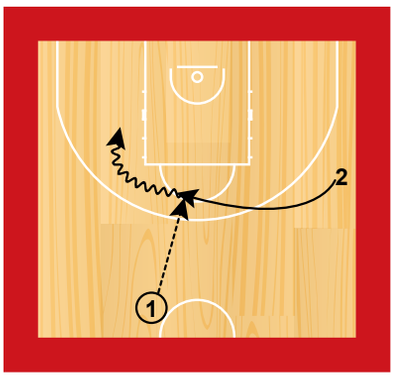
2 performs a "horizontal" cut from one side of the court to the other side.



On catching the ball, players need to be able to reverse pivot in order to face the basket.

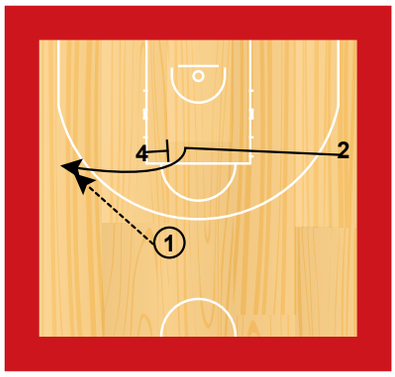


The player can then attack to either side. An attack to the baseline side must attack the basket and not move sideways. Often the player will catch the ball and "rip" the ball as they attack the baseline. They may also use a "throw down" dribble.

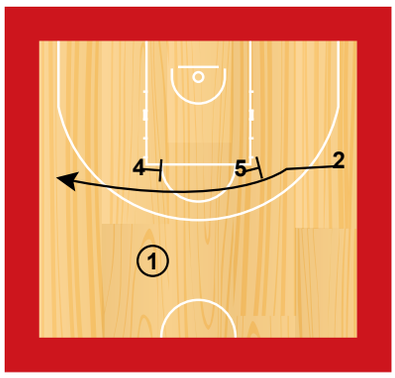


The offensive player also needs to be able to catch the ball and immediately dribble, heading in the direction of their cut.

It is most effective when the defender is trailing the cutter and the passer is ahead of the cutter. The cutter will often curl and dribble to the basket.



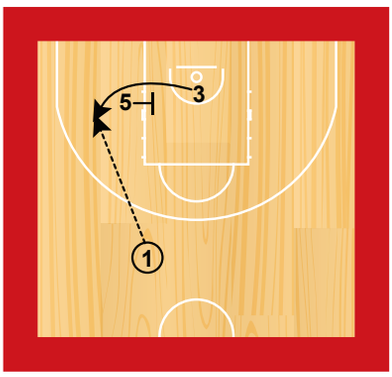
Commonly, a screen is set at the elbow on a horizontal cut.



Staggered screens may also be set at both elbows.

2.1.2 TURN OUT CUTS

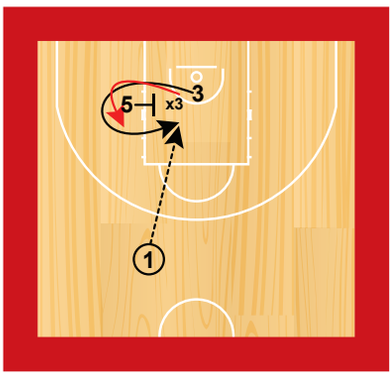
"TURN OUT" CUTS



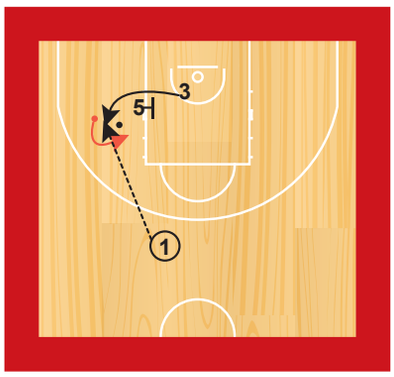
WHAT IS A "TURN OUT" CUT?

A "turn out" cut is used off a screen that is set at the side of the keyway, with the screener having their back facing the sideline, away from the keyway. This screen is also called a "Pin Down" screen.

The cut may go towards the perimeter.



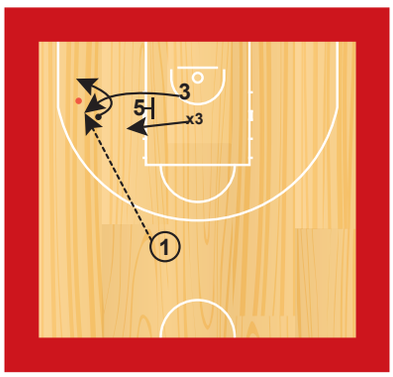
If the defender "trails" (running behind the cutter) then the cutter should curl back into the keyway.



FOOTWORK – FORWARD PIVOT

Players need to be able to execute different types of footwork, coming off the "turn out" cut.

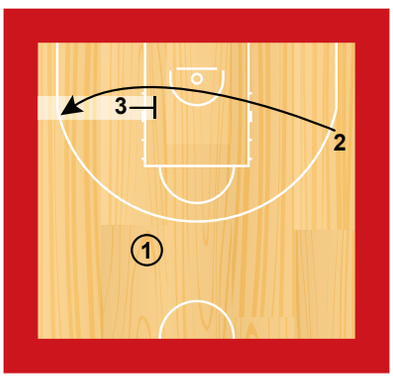
First, they must be able to do a "forward" pivot as they catch the ball to face the basket. They land and pivot on the foot closest to the basket (black) and then turn to face. This footwork is very effective for an immediate shot.



FOOTWORK – REVERSE PIVOT

Players must also be able to "reverse pivot" as they catch the ball. They pivot on the foot closest to the sideline (red) and "rip" the ball quickly toward the baseline as they reverse pivot. This footwork is effective when the defender has moved over the top of the screen, and the offence is catching the ball and looking to drive along the baseline.

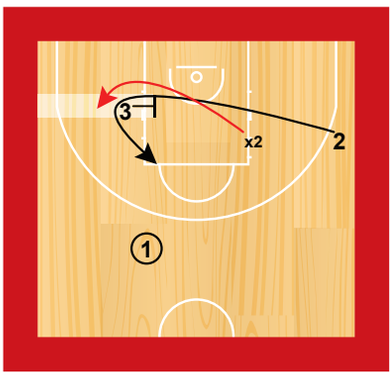
"READING" THE DEFENCE – DIFFERENT CUTS



"STRAIGHT CUT"

The initial cut is a "straight" cut, where the defender is "caught" on the screen and the cutter moves into the "shadow" of the screen – directly behind the screen.

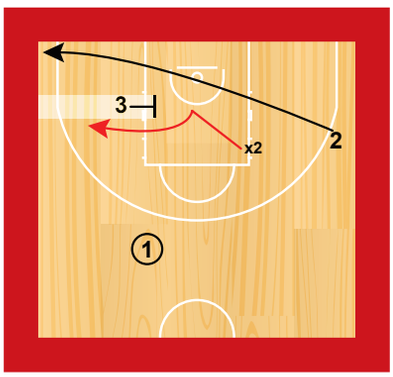
The screener must be in a low, balanced stance and the cutter cuts close to the screener, making sure that there is no gap which the defender can move through.



"CURL CUT"

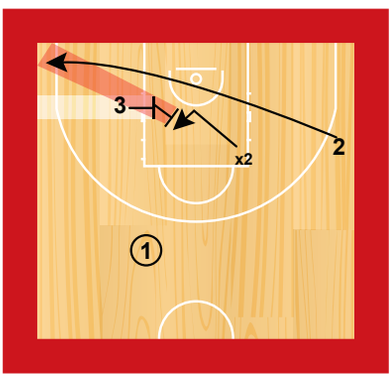
The curl cut is used if the defender is "trailing" the cutter (i.e. staying behind them in order to avoid running into the screen).

The cutter may curl tightly into the middle of the key or curl towards the elbow.



"FLARE CUT"

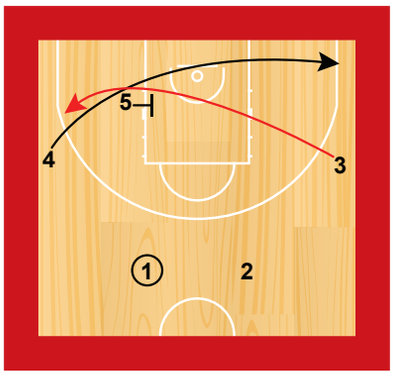
If the defender moves to go over the top of the screen or stays inside the key anticipating a curl cut then the cutter should "flare" to the corner.



The screener can turn and "re-screen" so that there back faces the baseline corner – creating a "shadow" where the cutter moved to.

INCORPORATING TURN OUT CUTS IN OFFENCE

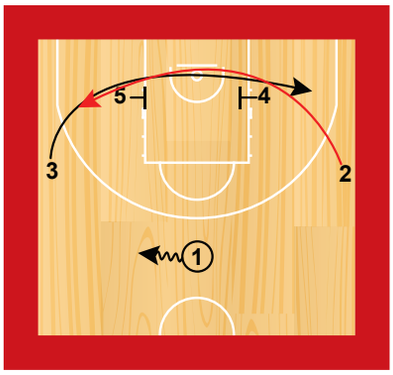
The "turn out" cut can be used in a variety of circumstances, such as:



"4 OUT, 1 IN" – "SWING THE WINGS"

Players 3 and 4 cut across the key, swapping positions. This movement is also called "Swing the Wings".

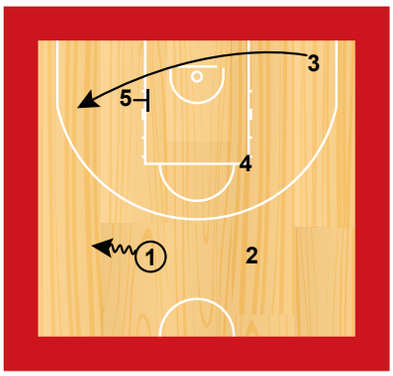
Player 3 makes a "turn out" cut of the screen by Player 5. Player 5 could also set a back screen for Player 4.



"3 OUT, 2 IN" – "SWING THE WINGS"

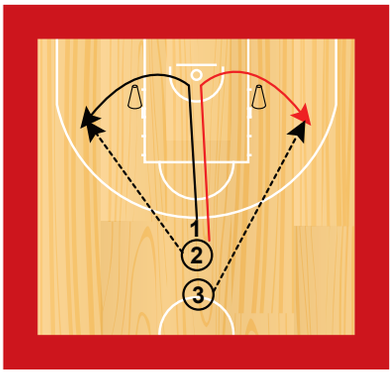
Again, this involves perimeter players swapping positions by cutting across the key ("swing the wings").

Both of the cutters makes a "turn out" cut. Player 3, cutting off a screen by Player 5 and Player 2 cutting off a screen by Player 4.



"3 OUT, 2 IN" – STAGGERED HIGH / LOW POSTS

Player 1 dribbles away from Player 3, who cuts across the key towards the ball.



ACTIVITY TO PRACTICE "TURN OUT" CUTS

This shooting activity is a great way to practice "turn out" cuts, and in particular the footwork. The first player cuts to the basket, and then does a "turn out" cut to one side. They receive a pass and then the passer cuts to the basket, and does a "turn out" cut to the other side.

The coach can designate whether to use a forward or reserve pivot. Defence (either passive or aggressive) can be added to make the cuts "more realistic" and / or make the activity contested.

2.2 CATCHING

2.2.1 SHOOTER'S CATCH

There are two situations which require a particular type of catch, which all players should be introduced to – a "shooter's catch" and a "post catch".

There will be many times in a game where a ball is passed to a player who must be ready to shoot immediately. The most common examples are:

(a) Catching a pass on the perimeter after the ball has been penetrated into the key;

(b) Catching the ball when coming off a screen.

HANDS

Initially players are taught to catch the ball with two hands behind the ball, however this is not the correct grip for shooting. A shooter's catch is where the player's shooting hand is behind the ball and their other hand is on the side of the ball. This is the correct position to move immediately into the shot.

FOOTWORK

The power for a shot comes from a player's legs and footwork when shooting (whether off the catch or the dribble) is of the utmost importance. Having good footwork when catching the ball can give the player momentum for a quick shot. Importantly, players do not need an exaggerated "knee bend" as this will slow down their shot.

The question of whether a shooter should use a "jump stop" (both feet landing at the same time) or a "stride stop" (one foot landing before the other) leads to considerable debate between coaches. It is recommended that players should be introduced to both techniques and as players specialize they may choose to use one technique over the other.

Particularly for young players, catching the ball "in motion" on the perimeter can help to give power in the shot. This can be as simple as catching the ball in the air, then landing with a jump stop or stride stop and then shooting. If the player catches the ball while stationary they will often have to "dip" to get momentum and this slows down the shot. When players use a stride shot, the coach should emphasise that as the second foot hits the floor, the player should immediately shoot.

THE PASS

Equally important to the shooter's hands and footwork is the accuracy of the pass. The pass should be received at approximately hip height. If it is higher or lower it will disrupt the player's natural shooting rhythm and will also be difficult to catch with the shooting hand behind the ball.

The pass also needs to allow the shooter to have momentum moving into their shot. On the perimeter, the pass must be in front of the player, not to their side. Often a player on the perimeter is moving laterally before catching the pass.

When passing to a player cutting off a screen, the ball should be passed to the hip of the player (and away from any defender) and not too far in front of the player.

Player's need to practice shooting (and passing) under game-like conditions and pressure to create good habits that will be repeated in games. Accordingly, coaches should avoid:

- Being the passer – as much as possible in shooting activities use players as the passer so that they get to understand the concept that "good passers make good shooters"
- Shooting without defence – both shooting and passing technique will be better if there is a defensive presence. The defender may be relatively passive at times but them being there will assist with technique.

2.2.2 POST CATCH

A post catch is again an example where one hand is behind the ball (the "target" hand) and the other hand is often holding position. As the ball hits their target hand, the post player quickly moves the other hand to get two hands on the ball. This style of catch works well when the post player is using their upper body to "seal" a defender and moving their hands too early would allow the defender to move to intercept the pass.

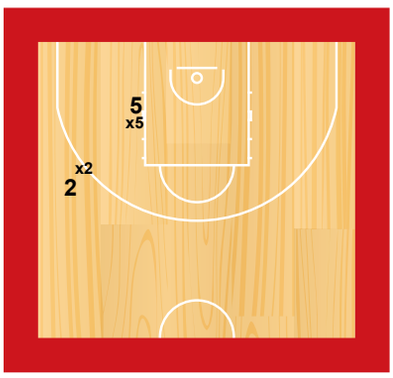
A general guide for the passer is to pass away from the defender's head as this will minimise the chance of the pass being intercepted.

The post player should also move their feet so that they are not reaching too far away from their body to catch the ball. If they then land in a jump stop, they have the choice of pivot foot, which can be important to then making a move to the basket.

2.3 PASSING

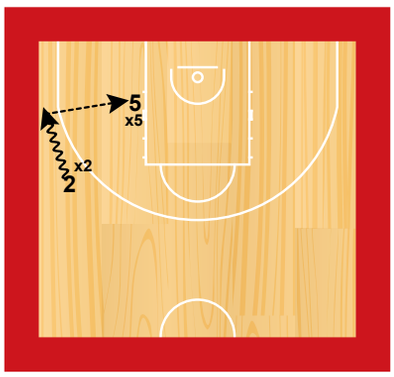
2.3.1 ADVANCED PASSING - ONE HAND CURL PASS

When passing to a post player the passer must pay particular attention to the position of the post defender and a good teaching cue is to pass "away from the defender's head". For example, if the defender is standing so that their head is to the left hand side of the post player, the pass should be made to the right hand side.



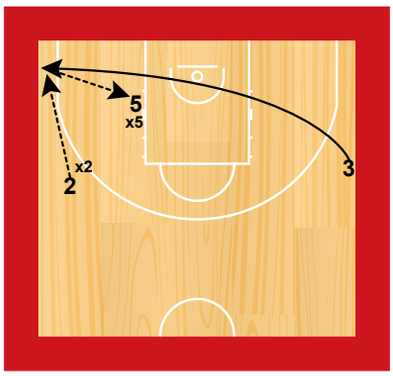
Often to be able to pass to a post player, the passer must move their position. The post player establishes position based upon where their defender is. It is the passer's responsibility to then get the ball to them.

Given x5's position, a pass to the post needs to go to the baseline side. 2 is not able to make this pass from their current position.

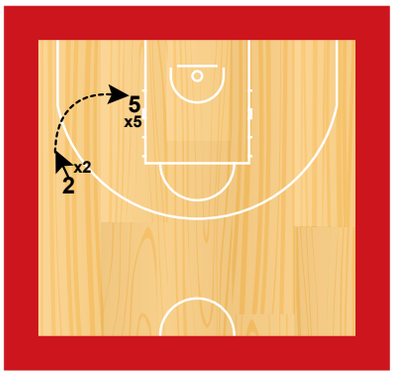


2 can create the correct passing angle by dribbling and 5 would hold their "seal" trying to keep x5 from establishing a new position.

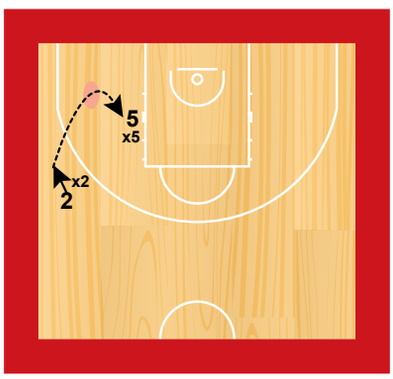
However, if 2 has a "dead ball" (i.e. they have already dribbled) they cannot create the passing angle.



If 2 has a “dead ball”, they may be able to pass to a team mate that has a better “passing” angle to pass to 5.



Another technique that 2 can use is a “curl pass”, where 2 steps to the side (in this case toward the baseline) and extends their arm (in this case their left arm) and passes the ball in a curling motion. It is often easier to catch if this is a bounce pass.



Often a curl pass will be thrown as a bounce pass, and 2 will spin the ball as they release it so that it hits the floor away from 5 (at the point marked in red) and then spins into 5. To do this, the ball needs to spin in a clockwise direction (spinning toward the post player).

2.3.2 ADVANCED PASSING - BASEBALL PASS

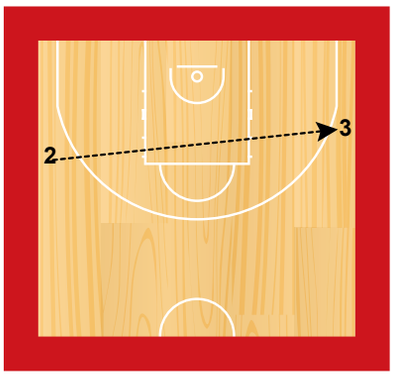
A "baseball" pass is a one handed pass that is used to throw the ball long distances. When throwing the pass the person stands side on to their target and lifts the ball to just above their shoulder. Their passing hand is behind the ball, with their elbow pointing to the ground and the other hand on the side of the ball.

The player steps toward their target and throws the pass across their body, twisting their body so that their chest faces the target as the ball is released.

Young players will often start a long pass at their hip and their hand underneath the ball and then throw it by moving their arm in a circular motion. This technique will usually be inaccurate and should be discouraged.

As with any pass, taking a small step forward as the pass is thrown helps to give power to the pass.

2.3.3 ADVANCED PASSING - SKIP PASSES



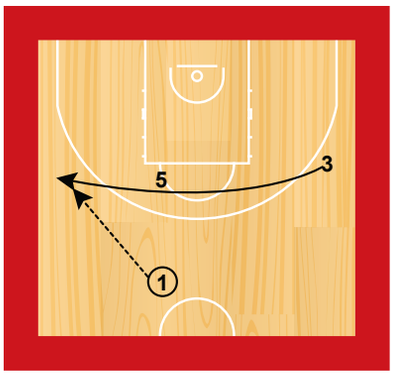
A “Skip” pass is used to pass the ball from one side of the court to the other and players should be discouraged from attempting this pass until they have the strength to throw the pass.

A “skip” pass should start from above the player’s heads, holding the ball in two hands. The pass should then be “flat”, to be caught by their team mate above their head. It is a difficult pass to throw as it uses the triceps, which are a relatively small muscle group. The player should also step forward as they pass which will help to give power to the pass.

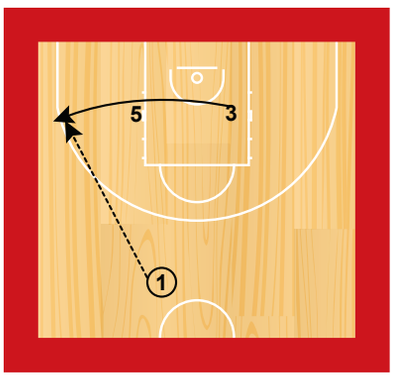
If a player attempts to throw a “skip” pass from their chest, it will be more easily intercepted as the pass will go in an arc, which gives the defender more time to move to try and intercept.

FOLLOW-UP

1. When would you introduce “skip passes” and “baseball passes” to junior teams? What would you do if you had players in a junior team trying to throw those passes before you had intended to introduce them to the team?
2. Discuss with a coaching colleague what footwork you would teach when a player is using a horizontal cut across the top of the key



3. Compare the footwork on a horizontal cut to the footwork you would teach on a turn out cut.

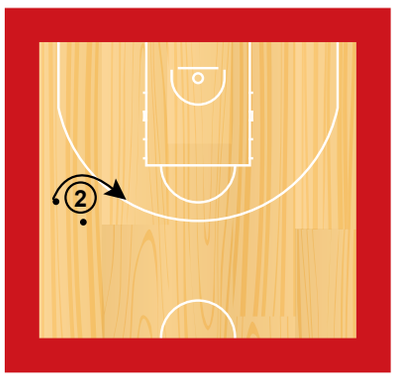


4. Discuss with your players the most important factors to consider when passing the ball to a low post player. Do your players understand the importance of the “passing angle” and when to utilise different types of passes?

2.4 DRIBBLING

2.4.1 ADVANCED DRIBBLING - REVERSE SPIN DRIBBLE

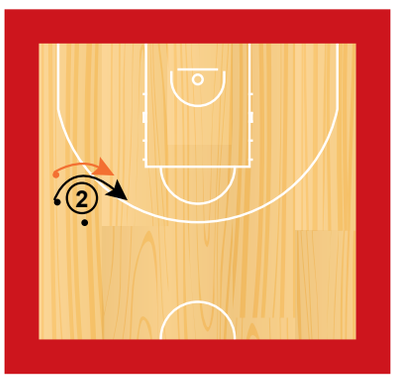
A reverse spin dribble is a technique used to change direction and, when done correctly, protects the ball from the defender by keeping the dribbler's body between the defender and the ball.



The footwork on a reverse spin dribble is simply a reverse pivot.

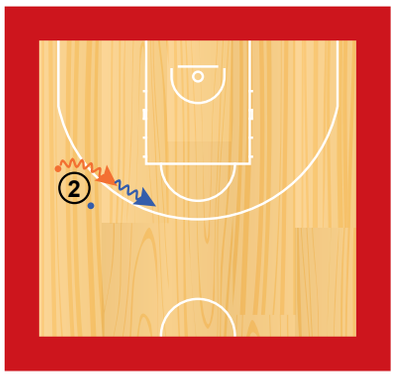
Here 2's left foot stays on the ground (as their pivot foot) as they step with their right foot (which is closest to the sideline).

It is very important that 2 puts their "chin to shoulder" so that they can see behind them, before stepping. A reverse spin is often a cue for defenders to trap ("double team") and the offensive player needs to see whether or not that is happening.



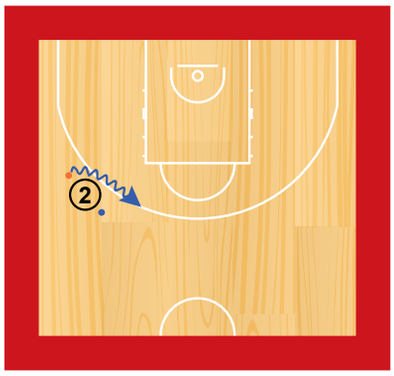
As the player takes their reverse pivot, they pull the ball across their body in one motion, as they continue their dribble. This will ensure that their body stays between the ball and their defender.

They must keep their hand on top of the ball so that it is a continuous dribble – they are not picking up the ball (as they then could not continue to dribble).



As the dribbler is changing direction they should also change the hand they are dribbling with.

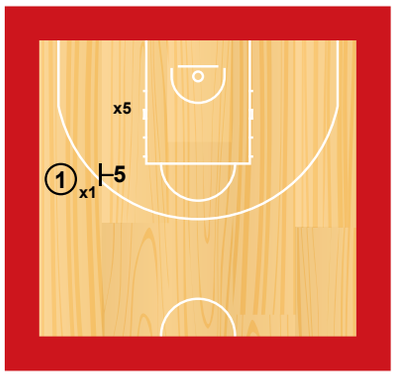
Shown here, the dribbler is using their right hand as they move to the sideline and then continue to use their right hand as they reverse pivot and drag the ball across. After they have finished the reverse pivot and are moving in the new direction, they change hands.



A common mistake is to reverse pivot, but to change hands immediately. This usually means that the ball is unprotected as it is not "dragged" across as they step.

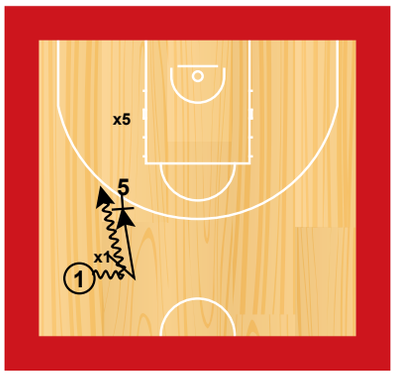
2.4.2 ADVANCED DRIBBLING - SNAKE DRIBBLE

A "snake dribble" is used when the offensive player has beaten their opponent and is simply moving across into their path. The most common use of a "snake dribble" is off a ball screen.



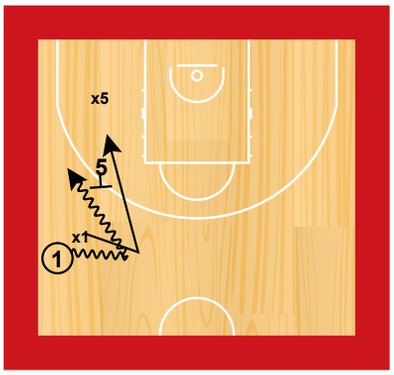
A common tactic to defend a ball screen is "Ice" or "Push", which is where the defender (x1) moves to a position where the dribbler (1) cannot use the ball screen.

The screener's defender (x5) moves toward the key to a position to stop any dribble to the baseline. This is most common when the ball screen is on the wing.

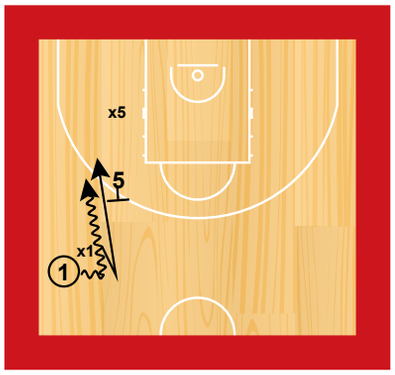


In response to this defensive tactic, offensive teams may change the angle of the ball screen so that it is set with back to the baseline (similar to an up screen – which is called a "flat" screen) or even on the side of the defender nearest the sideline.

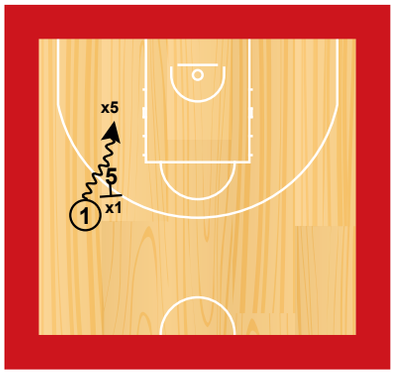
The dribbler must take their defender to the screen, moving to a position on the court where they are in line to hit the screen.



Here, 1 moves too far across the screen so that x1 will be able to move behind 5, rather than moving into 5.



Here 1 has not moved far enough across the court, so that x1 will move easily pass the screen. The screener cannot continuously move (as this will be a blocking foul) so that once the screen is set, the offensive player have to move their defender into the screen.



As 1 gets to the screen (and x1 moves into the screen), 1 must attack x5, looking to take advantage of the mismatch. 1 must use a "snake" dribble to crossover and be behind the screen, to ensure that x1 cannot get back into position to defend them.

2.4.3 ADVANCED DRIBBLING - THROW DOWN DRIBBLE

"THROW DOWN" DRIBBLE

When a player has the ball but has not dribbled they can use either an "on side" step or a "cross-over" step.

ONSIDE STEP

Initially athletes are taught that if they make an "on side" step, the keep the ball on the same side of the body as they are stepping with, and then bounce the ball on the floor ahead of their foot – the ball and the foot they are stepping with landing on the floor at the same time.

CROSS-OVER STEP

With a cross-over step, the athlete is taught to swing the ball from one side of their body to the other (as they step), so that it is bounced on the other side of their body.

When moving the ball they should "scrape" the ground, emphasizing to keep it low. However, coaches must make sure they are getting low by bending their knees not just bending over

"THROW DOWN" DRIBBLE

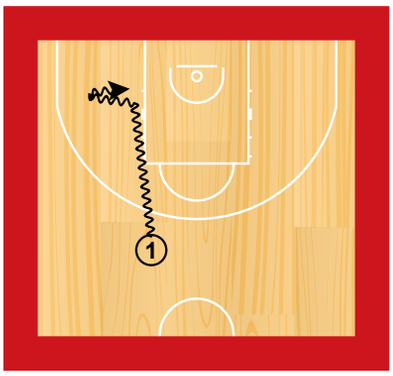
With a "throw down" dribble, the player is using an onside step – i.e. they are stepping with their right foot to move to their right (or left foot to move left), however the player starts with the ball on the opposite side of their body.

Rather than move the ball across their body and bounce it on the floor on the other side of their body, the player throws the ball into the ground so that it bounces to the other side of their body.

The "throw down" dribble originated because players were often called for a travelling violation when using an onside step and having the ball on the same side of their body (it is a travel if the pivot foot is lifted before the ball leaves the hand to dribble).

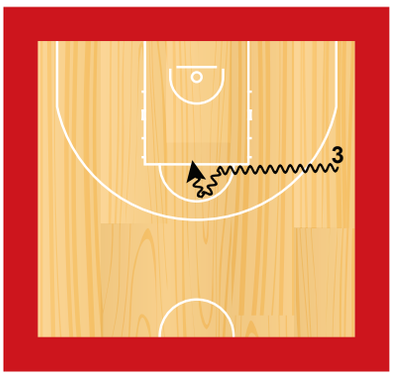
The "throw down" dribble ensures that the ball leaves the hand early.

2.4.4 ADVANCED DRIBBLING - STEP BACK MOVE (OFF THE DRIBBLE)

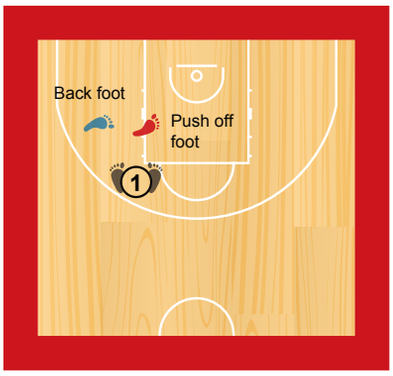


STEP BACK MOVE (OFF THE DRIBBLE)

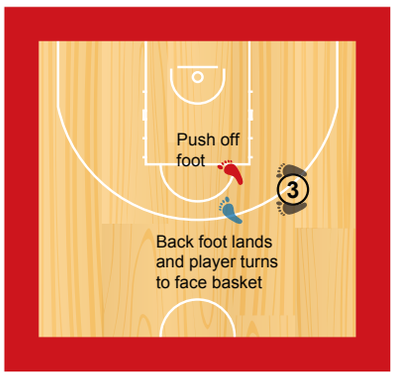
The "step back" move is used by a player with the ball to create space for their shot. It is generally performed by a player that is dribbling "side-on" to the basket and then steps away from the basket to create the space.



The dribbler pushes off the foot that is closest to the basket (shown in black) and then jumps back, turning their body to face the basket. As they land on their back foot, they jump to shoot. It is important that the player does not lean their head back as they jump backwards as this will affect their balance.



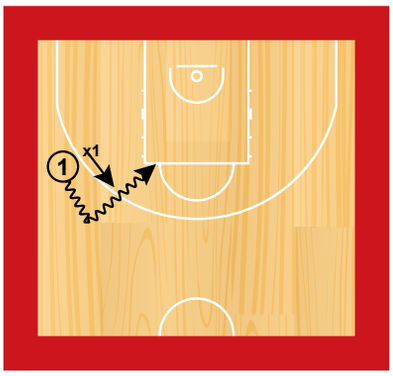
They should keep their head between their feet so that their balance is not affected. When they shoot, the player should be jumping straight up into the air not backwards. If they shoot while they are moving backwards then it is likely that the shot will be short of the basket.



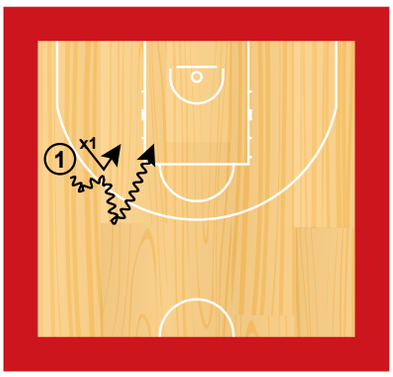
Players may also use a step back move to put the defender at a disadvantage. As they land on their back foot they keep the dribble alive, but lift their shoulders and head, as if they are stopping. If the defender lunges at them, they can then dribble past, pushing off strongly from their back foot.

2.4.5 ADVANCED DRIBBLING - HORIZONTAL DRIBBLE

A perimeter player can use a variety of fakes (drive fakes, shot fakes) to attempt to beat their opponent, from a stationary start. Offensive players also need to be able to beat their opponent "off the dribble" and may move sideways ("horizontal") whilst looking for an opportunity to drive past the opponent.

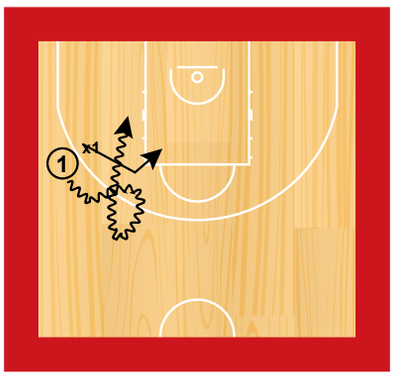


There are two techniques that the dribbler can use. From the wing or corner, they will usually face the basket, moving sideways and looking for the opportunity to "attack" the basket and dribble forwards.

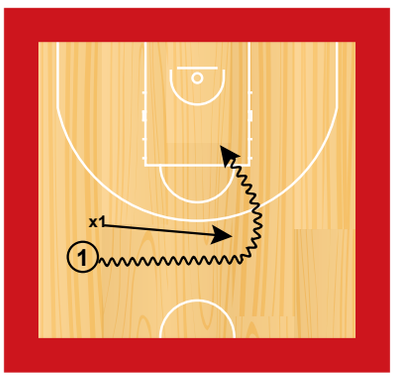


If the dribbler just moves sideways, they are unlikely to get past their opponent. Instead they use a variety of moves such as:

- Hesitation Dribble: stopping and then starting again
- Punch Dribble: pushing forward and then retreating if the defender is able to defend the drive
- Crossover Dribble: changing direction using a variety of crossover dribbles (in front and behind)
- Fake Crossover: moving as if to change direction and then returning to the original direction.



A change of direction is often most effective when it follows a retreat dribble, taking advantage if the defender lunges forward.



A second technique (most commonly used when moving across the court) is to turn and face the direction they are moving. The offensive player is now side on to their opponent and the basket.

Again, the offensive player may use a variety of dribble techniques in order to beat their opponent. They can also use ball screens or hand-offs. The disadvantage of this technique, is that the player has their back to one side of the floor and may not be able to see both opponents and team mates.

The best way to introduce the use of these skills is to have players practice in contested situations, whether that is 1v1 or with more players. Young players often use the dribble too much, instead of passing and using space and coaches may prefer offensive players pass. However, the ability to beat an opponent from the perimeter is important, as it does then create a situation of advantage.

It is recommended that coaches vary rules used in scrimmages so that teams learn to create opportunities of advantage by:

- Moving the ball by passing (e.g. "reversing" the ball and creating a "long close out", where an offensive player can drive)
- Beating a defender whilst dribbling, emphasizing other players adjusting their position to create space for the dribbler.
- Limiting the number of dribbles, the time that a player may have the ball (e.g. 3 seconds at a time)
- Restricting the offensive team allowing only one player to dribble (after that only passes can be made) or that after a player dribbles the next offensive player cannot dribble (however the player after them can).
- It is important that players learn to understand how to beat defenders using a dribble but not to over use the dribble.

2.4.6 ADVANCED DRIBBLING - PUSH DRIBBLE

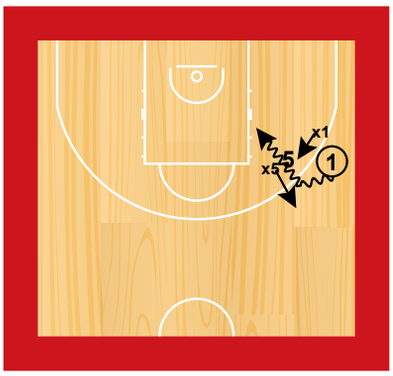
A "push dribble" is another move made whilst the offensive player is already dribbling and it is a skill best developed (and practiced) in contested situations. Players that utilize such moves are unlikely to have been directly "coached" in how to perform the skill and instead have developed it as a method to beat defenders.

The coach's role is to encourage and allow players to play in contested situations (from 1v1) and to discuss with the players "cues" that indicate when they may be able to beat the defender.

A "push" dribble is similar to a throw down dribble - a throw down dribble is used as the players starts their dribble, whilst a push dribble is used if they are already dribbling.

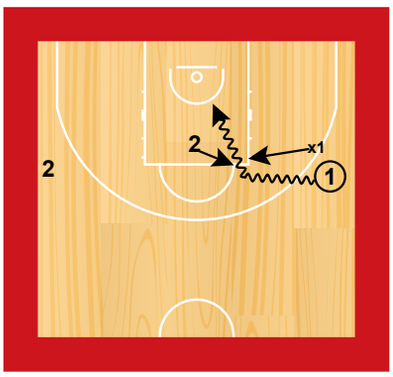
With the push dribble, the dribbler is pushing the ball into an open space and then moves after the ball. Obviously, if they push the ball too far away from their body it may allow defenders to intercept it.

The position of the defender's head is often important as it will affect the defender's balance.

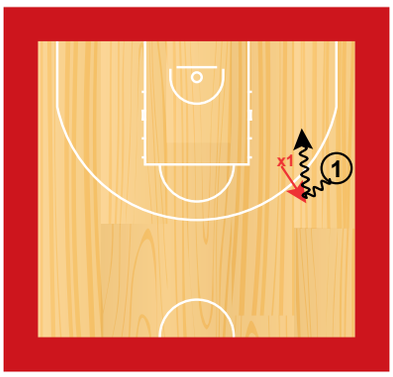


In defending a ball screen, the screener's defender may move into the path of the dribbler. Whether this is simply a "show" or a double team, the dribbler will look for an opportunity to "split" the two defenders (i.e. dribble between them).

The dribbler, pushes the ball between the defenders and then moves their body through the gap.



Another opportunity to "split" defenders is when a help defender comes across to stop dribble penetration. The offensive player may pick up the ball and jump through the gap or they may push the dribble through and then follow.



A push dribble can also be used where a defender moves across to stop a dribbler. Here 1 has to change direction and could use a cross over dribble, however that tends to keep the ball near the defender.

The “push” dribble moves the ball away from the defender, and then 1 moves to it.

FOLLOW-UP

1. Discuss with a coaching colleague whether or not you agree with the following statement:

   Ball handling techniques do not need to be taught. Just put the kids in a competitive situation and let them play – they will work out the "moves" that work best for them.

2. Assess how well each of your players beat opponents off the dribble (creating scoring opportunities for themselves or a team mate). Have your players rate their "ball handling" skills? Do the player ratings agree with your assessment?

2.5 SHOOTING

2.5.1 ADVANCED LAY-UP TECHNIQUES

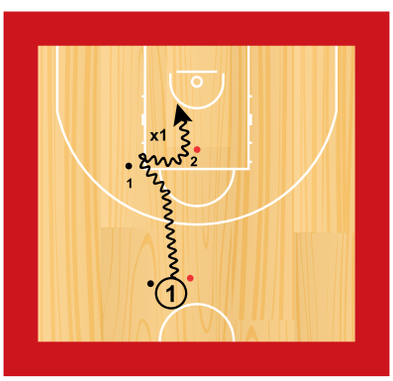
Players should initially be taught two techniques for lay-ups:

- Jump stop and then shoot
- Moving (or "two step") lay-up.

With a moving lay-up players should be taught to shoot with their left hand on the left hand side and with their right hand on the right hand side.
The footwork is also different on each side – jumping off the right foot when shooting with the left hand and jumping off the left foot when shooting with the right hand.

With the moving lay-up, the hand the player shoots with should reach as high as possible. They will also lift the knee on that side, which will help them to jump up at the basket. Even young players should be encouraged to jump up high, rather than a "long jump".

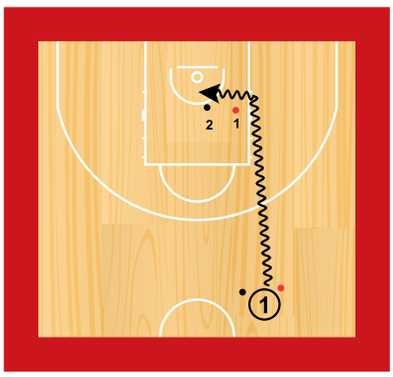
As players become more experienced and play at higher levels, they must develop the ability to "get to the rim" and make a lay-up, even it if is not the conventional footwork that is initially taught. Below are examples commonly seen.



EURO STEP

A "Euro Step" lay-up incorporates a change of direction as the player takes their "two steps". The steps may also be slower.

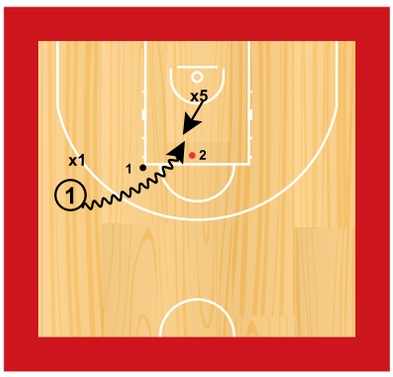
Here, the player takes their first step to their left (black dot). With their second step they step past the defender to the right hand side (red dot). They should also lift the ball and move it from one side of their body to the other.



OUTSIDE FOOT, INSIDE FOOT

The offensive player uses their lay-up footwork to move laterally to get to the basket. Typically, they may dribble down the "seam" at the side of the key, landing their "outside foot" (furthest from the basket - shown in red). They then land their "inside foot" and jump off both feet to the basket.

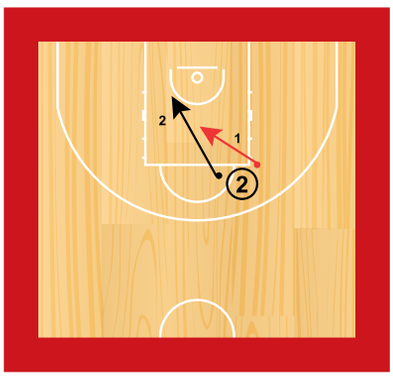
The move is done in motion, enabling the player to move from the side of the key to the basket.



FLOATER OR "TEAR DROP"

This is also called a "long lay-up". The offensive player penetrates to the top of the key and shoots before getting to the help defender.

The footwork is the same as "motion lay-up", however the player shoots from the top of the key rather than at the basket. They must jump high so that they can shoot over the defender.



WRONG FOOT LAY-UP

Players must be able to shoot jumping off the same foot as they are shooting with. The need may arise for a number of reasons:

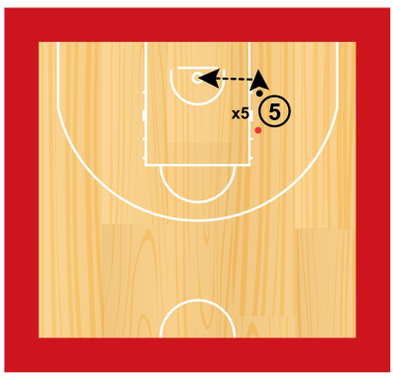
- Choice of pivot foot. The example shown, the left foot is the pivot, so the first step must be with the right foot (shown red). The second step is with the left and as they are on the left side they may shoot with the left
- At the end of a "Euro Step";
- Taking only one step instead of two, to avoid defenders.

HOOK SHOT

The hook shot is taken side on to the basket, with the offensive player's body separating them from their defender. The most renowned exponent of this shot was Kareem Abdul Jabbar, who would shoot equally adeptly with left and right hand.

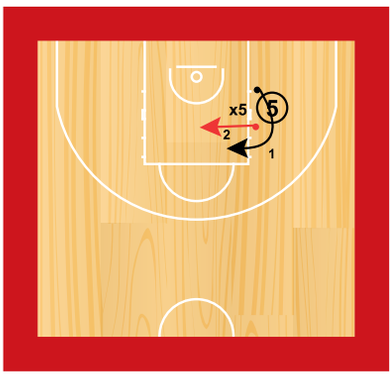
Importantly, players often move their arm in a circular motion, releasing the shot very differently to normal shot technique. This is incorrect.

The release of a hook shot should be the same as any shot. The player should lift the ball to their shoulder and then reach upwards to shoot the ball. Players often incorrectly start with the ball at their hip - this should be discouraged.



A hook shot can be done from a jump stop, which often will happen at the end of "drop step" from the low post. However the "sky hook" made famous by Kareem Abdul-Jabbar, is a moving lay-up.

It may be done with one step (without dribble), where the player takes a step (shown here toward the baseline) and then lifts their pivot foot as they jump and shoot.



It can also be done with two steps, which will require the player to dribble. Shown here, a post player "backs in" toward the basket and then spins to the middle to shoot a hook shot.

A hook shot may be taken any time. They step first with their baseline foot (shown in black) and take the second step with their other foot (shown in red), an offensive player moves across the basket.

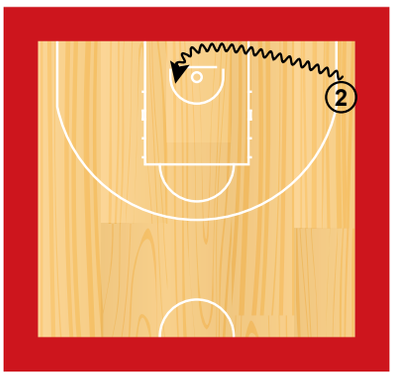
SCOOP SHOT

Initially players are taught to jump up at the basket whenever shooting a lay-up and to reach as high as possible when releasing the ball. More experienced players may reach ahead of their body and "scoop" the ball at the basket, when avoiding defenders.

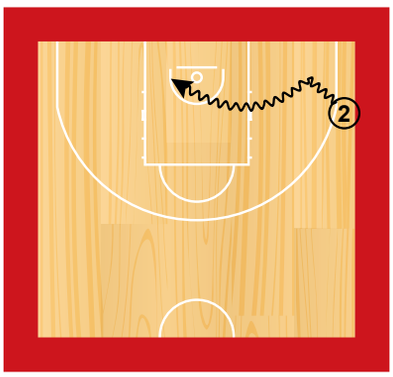
As with most of these advanced lay-ups, players will develop skills instinctively as they find a way to score against defenders. When shooting a reaching or "scooping" lay-up, players should be encouraged to hold the ball in two hands as this gives them more control of the ball. It also enables them to keep control if a defender does knock the ball.

2.5.2 REVERSE LAY-UP

A "reverse" lay-up is where the offensive player drives from one side of the basket, and shoots from the other side of the basket. Particularly for older athletes, the basket can help to protect the shot from being blocked by the defender.



When the offensive player drives baseline, they may come from behind the backboard. Here the reverse lay-up is shot with the back to the baseline and releasing the ball above their head.



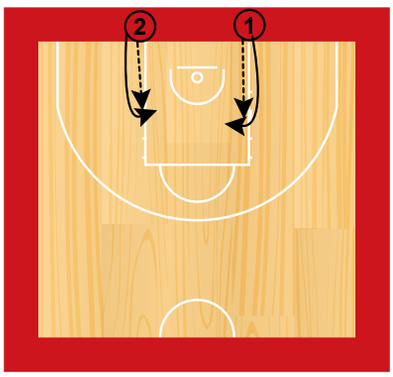
When the offensive player drives in front of the basket, the reverse lay-up may be shot with back to half way. It is similar to a hook shot, although is taken closer to the basket.

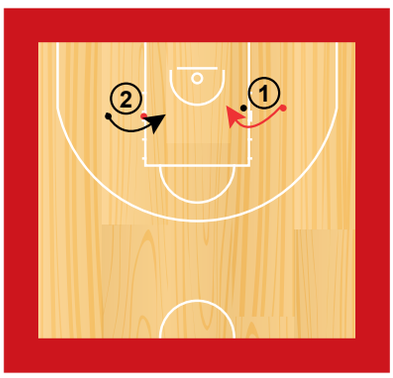
2.5.3 ADVANCED SHOOTING - SHOOTING FOOTWORK

Initially, players should be instructed to be "balanced" before shooting and should be instructed how to use both a "jump" stop or "one count" – both feet landing at the same time and a "stride" stop or "two-count" – one foot lands and then the other. With a stride stop, players should be able to use either foot as their pivot foot.

Whichever footwork a player uses they should be instructed in the habit of catching the ball "in the air" – with both feet in the air. This should not be an exaggerated jump, however by catching the ball "in the air" the player will be able to:

- Correctly establish a pivot foot or have a choice of pivot foot if a jump stop is used;
- Generate greater power from the legs in the shot;
- Have a quicker "shot release" as they do not need to "dip" down to generate power.



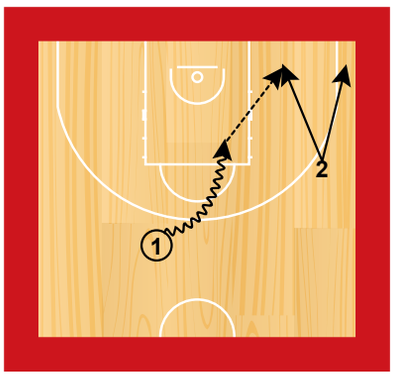


This simple activity is a good way to practice "stride stop" shooting footwork. Players stand on the baseline with a ball and spin the ball to approximately the "low block". They move after it, catch it with feet in the air and land in a stride stop.

The first foot to land should be the "inside foot" (closest to the basket) and:

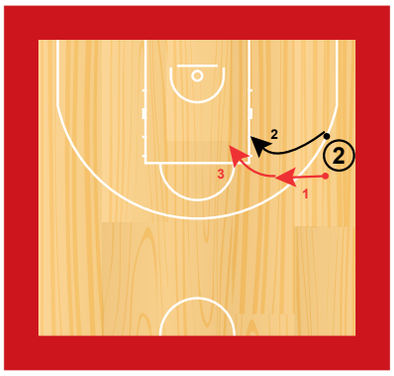
- land on the heel and turn the foot to point at the basket;
- bend the knee to drop their weight down (and stop forward movement or over-rotation).

As the second foot lands the player should immediately jump into their shot. This is an explosive movement. By practicing on both sides of the basket the players will develop the skill to pivot on either foot.



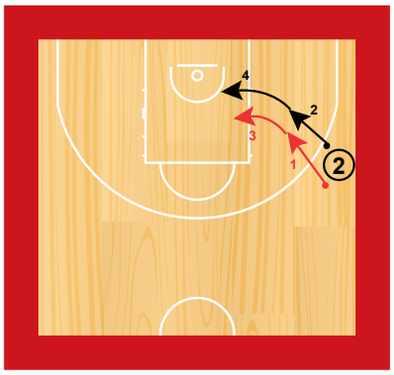
An activity to practice "jump stop" footwork is to have the shooter start at the wing. As their team mate dribbles into the key, the shooter moves sideways to their shooting position. As the pass is thrown to them they jump-slightly forward, catch the ball in the air and as they land they immediately shoot.

The player should move to a position that is within their shooting range.

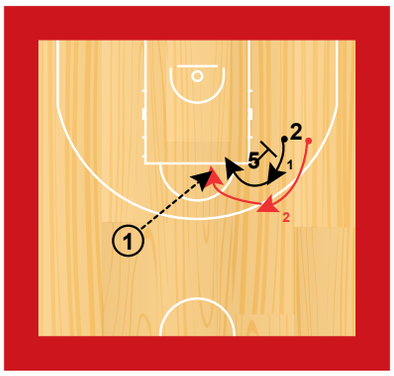


Players also need to be able to shoot off the dribble. When they dribble in the opposite direction of their pivot foot, they should be able to shoot with only one dribble.

Here the right foot is the pivot foot so the players takes the first step with their left foot. As this foot lands, the dribble should also hit the floor. After the dribble the player catches the ball (with feet in the air) and either stops in a stride stop (shown) or jump stop to shoot.



If the player dribbles in the direction of their pivot foot, they may need to take two dribbles, because their first step is across their body. Again, here is shown a stride stop.



When cutting off a screen the offensive player must step past the screen with the foot that is closest to the screen. This has the effect of "sealing" the defender so that they cannot squeeze past the screener.

2.5.4 ADVANCED SHOOTING - INSIDE SHOOTING

The opportunity for players to practice in contested situations is very important for them to develop the ability to be a scorer from both the perimeter and post position. In practicing in contested situations, players will develop ways to score and stop scorers and the coach should only correct when absolutely necessary.

There are some techniques that may help players to be more successful inside "the paint" and the coach may provide feedback to players on these techniques at an appropriate time. This type of instruction is usually most effective in response to situations that the player has been involved in.

"HIGH 5" FOLLOW THROUGH

Around the basket players will often shoot from various angles and positions. They need to be proficient with both left and right hand but literally will shoot sometimes facing the basket, sometimes side-on to the basket and at times with their back to the basket.

Some players struggle with the release of their shot, which we traditionally teach as a "snap" (where the wrist bends and fingers point down). Instead, around the basket, players may find it easier to release the ball with their fingers pointing up and their wrist finishing straight.

This type of release (a "High 5" follow through) should still put backspin on the ball, as this is important to "soften" the shot. It is particularly useful when not directly facing the basket.

SHOOTING OFF WRONG FOOT

The key is often a congested area and the less dribbles and steps a player makes will often lead to a better result. This is also means that sometimes they are not able to use "perfect" lay-up footwork and instead need to jump off the same foot as they are shooting with.

Coaches should not automatically correct an athlete for incorrect footwork, although should check that the footwork was legal. Similarly, a player may shoot with their right hand on the left hand side of the basket and although we do not teach this, it may have been the appropriate shot to make having regard to their position on the court and the position of any defenders (for example, on a baseline drive, the player's left hand may be behind the backboard!).

If the coach believes that the technique has disadvantages they can speak to the athlete about that or may even design an activity to "test" the technique. For example, a player may reach around a defender with their arm to release a "scoop" shot, which would be unlikely to be successful if there were a second defender nearby. The coach could design an activity that has a second defender, without telling the players. If the offensive player attempts again to use the move and is blocked the coach can speak to the defender about why it was unsuccessful the second time.

If the player learns that it will work in one circumstance (no help) but not in

another (with help) and they learn how to identify each situation, then they should be allowed the freedom to use the choose as necessary.

PIVOTS, FAKES AND ONE FOOT SHOOTING

One cause of needing to shoot off the "wrong foot" is the pivot foot which the player started on may not enable the player (in the congestion of the key) to take the same number of dribbles/steps to do the correct footwork.

It is very important that offensive players learn the importance of using pivots and fakes to create space to shoot (or pass). Often pivoting on the heel and turning the foot, will make it easier for the offence to step past a defender. Being able to shoot off one foot is very important once the player has a dead ball, as they may still take one step past the defender. In the confined space of the key they may not have the opportunity to bring their feet together as they normally would before shooting.

When pivoting or stepping, the offensive player should keep their upper torso high and not crouch down. This keeps their vision up (which is important for identifying possible passes). It is equally important that they keep their knees flexed and their weight down. If they straighten their legs they will not be as balanced nor can they take as big a step in order to get past a defender.

MOVING AWAY FROM THE BASKET

Often pivoting away from the basket will help to create space to be able to shoot because they are now side-on to the defender (so the "width" of their body separates them from the defender) and it is very important that they are able to shoot with either hand from within the key.

Defenders in the key may also "chase" or reach for the ball when the defender pivots away, and this creates an opportunity to then step past them (often using a reverse pivot).

FAKE SLOWLY, MOVE FAST

Shot fakes in particularly can be very effective inside the key as the defenders are often keen to attempt to block the shot and will jump to do so. Once they have left their feet, they are no longer able to defend the player. A common mistake though is to make the shot fake:

- Too fast – moving into their next move before the defender has had time to react to the fake.
- Too small – not lifting the ball above their head (which becomes obvious to the defender!). If the fake is too small it may not be seen by the defender and accordingly they will not react to it.

KEEP THE BALL HIGH

Perhaps the most important thing in the congestion of the key is to keep the ball high. Having the ball at shoulder height (or at the forehead) will ensure that it is difficult for defenders to slap the ball away or get a joint possession. If the ball is held high, it will also tend to make the offensive player's elbows stick out, which will help to keep defender's away.

Importantly, the offensive player should not throw their elbows and attempt to make any contact, however having them up (and in their cylinder) is legitimate and will help to relieve pressure.

Without doubt, the more coaches create contested situations at practice the better the players will develop their skills of inside shooting. That pressure may be relatively passive (standing in front of a player so that they must step past) through to "game-like" pressure.

2.5.5 CORRECTING SHOOTING TECHNIQUE - FLAT SHOT

COMMON SHOOTING PROBLEMS

Coaches should take time to observe a player shooting before rushing in to try to change their shooting technique. To be most effective, the coach should try to make only a small number of changes, and therefore should evaluate what they believe will make the most difference.

Following are four common problems, with some suggestions as to how to rectify the technique. Sometimes the most important thing to do is to describe to the athlete what you want (e.g. a high arc) and then let them "explore" how to produce that.

Problem Observed	Potential Causes	Suggested Change
"Flat shot" – with a low arc. The shot has a lower probability of going in and if it hits the ring is likely to bounce away, rather than bounce up and potentially still go in.	1. Low release point (elbow below eye). 2. Narrow stance – with one foot too far in front of the other (sprinter's stance)	To raise the release point: 1. Have athlete look underneath the ball to see their target. 2. Have them stand in front of the basket (top of the no-charge circle) and shoot. Only "swishes" count (i.e. the ball does not hit the ring or the net). 3. Have athlete stand in front of a wall and shoot to hit a particular point on the wall:  To broaden stance: 1. May need to practice stopping in a broad stance. Start with ball spin it to themselves, and step forward to catch it. Catch in the air and land in balanced stance. 2. When practicing free throws, have athlete look at floor and place their feet a certain number of floor boards apart (whatever is comfortable). Making this conscious will help make it a habit! 3. Have the player try using a jump stop rather than a stride stop (when player "over stride" which puts their feet too far apart).

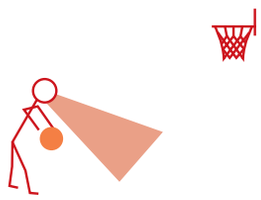
2.5.6 CORRECTING SHOOTING TECHNIQUE - OFF-LINE SHOT

Problem Observed	Potential Causes	Suggested Change
"Off-line shot" – it does not hit the target.	1. They are not getting power from their legs but are "pushing" with the arms / shoulders. 2. Twisting their body as they shoot – particularly if their non-shooting hand is "pulling away" 3. Elbow not being under the ball, so that arm pushes across their face.	To engage LEG power: 1. Make sure their stance is not too wide 2. Have them shoot inside the keyway, start with the ball at their waist and hand behind the ball – have them push up with their legs, finishing on their toes and their hand underneath under the ball. Initially, don't release the shot, just practice lifting the ball up as the legs push. Progress to shooting. To stop body twisting: 1. Have player "hold" their follow through, keeping both arms in the air. 2. Stand behind the player (or have them stand in front of a wall), so that if they twist their body, they will contact the coach/wall. To get elbow under the ball: 1. Dribble ball with shooting hand, and then bring other hand across to pick the ball up and bring it to a "cocked" position (hand and elbow under the ball).

2.5.7 CORRECTING SHOOTING TECHNIQUE - SIDE SPIN

Problem Observed	Potential Causes	Suggested Change
Side spin on the ball. This is likely to affect the arc of the shot and may also affect the direction of the shot.	1. The non-shooting hand twisting to push the ball. 2. Their shooting hand twisting on release, as the fingers of the hand come together	To get backspin on the ball: 1. Hold the follow through of the shot and check that the non-shooting hand has not twisted. If the palm of the non-shooting hand is facing the basket then it has most likely pushed the ball putting side spin on it. 2. Have athlete stand at the elbow and "shoot" the ball, trying to land at the other elbow. If the shot has "backspin" the ball will bounce back toward the player.

2.5.8 CORRECTING SHOOTING TECHNIQUE - SHOOTING SHORT

Problem Observed	Potential Causes	Suggested Change
Shooting Short – hitting the front of the ring.	1. Insufficient "power" in the shot. 2. Fading backwards, which may be caused by: a. Head going back, watching the ball in flight b. Jumping backwards – often landing on one foot, whilst the other foot kicks forward.	To engage LEG power: 1. Make sure stance is not too wide 2. Shoot inside keyway, start with the ball at chin, hand underneath – have them push up with their legs, finishing on their toes. To Stop the Fade Away: 1. Keep vision on target – teach players to have a target. 2. If they are looking down as they catch the ball or pick it up off the dribble, the movement of their head to then see the basket can be enough to have them jump backwards. Have them able to see the basket as they catch the ball.  3. If they are fading back and landing on one foot, have them shoot behind a line or towel. At the end of the shot they should land both feet at least on, or in front, of the line/towel. Both feet should land at the same time;

FOLLOW-UP

1. Reflect upon the top scorers in a league or tournament that you have watched and are familiar with the players:
   a. Describe the shot technique of each of the scorers;
   b. What elements are common to most, or all, of the top scorers;
   c. Discuss with a coaching colleague what changes (if any) you would try to make regarding the shooting technique of any of these players
2. What is your team's shooting percentage when shooting from inside the key? Have a coaching colleague watch your team play and discuss with them what your players could do to improve their shooting percentage inside the key.

2.6 OFFENSIVE MOVES

2.6.1 POST MOVE – "BACKING IN"

Players are initially taught in the low post to either:

- Turn and face the basket; or
- "Drop-step"

The "back in" move is used to dribble into the key, while keeping the player's back to the basket. It is most effective when the defender has their feet too far away so that a drop step will not work. By dribbling in, the post player tries to get to a position where they can step past the defender, or they are close enough to shoot.

When "backing in" the post player:

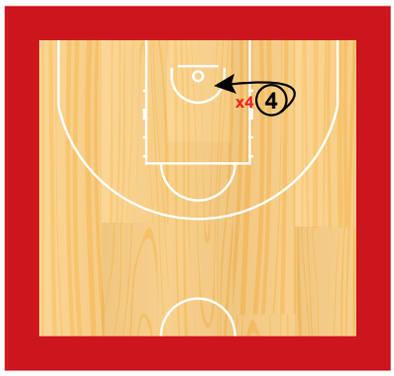
- Angles their body slightly so that one shoulder is closer to the defender – this creates some space to protect the ball;
- Dribble close to their body and between their feet. If the right shoulder is closest to the defender, dribble with the left hand (and vice versa);
- Turn their "chin to shoulder" so that they can see the defenders – whichever shoulder is closest to the defender is the direction they should look;
- Keep vision of the defender of any perimeter player on their side of the floor – these defenders will often "hedge down" to steal the ball;
- Limit the number of dribbles – the more dribbles they take, the more likely another defender will come to steal the ball.

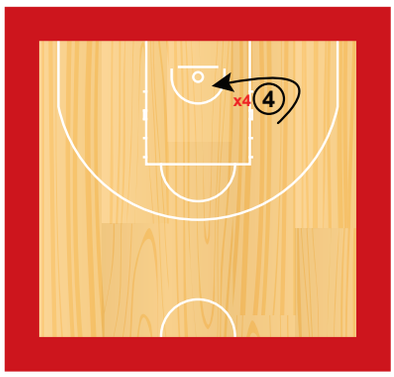
The post player will often take a hook shot once they have moved closer to the ball. They should be trying to get position in relation to the defender's feet.

The post player may also "hesitate" on their dribble (bouncing the ball higher and lifting their shoulders as if standing up) and then attack with an aggressive step.

This move is not encouraged for young players as they will tend to dribble too often and not have vision of defenders that will come to attack the ball.

2.6.2 POST MOVE – "FORWARD SPIN MOVE"





FORWARD SPIN FROM LOW POST

The forward spin from the low post is used where the defender is playing behind but close to the offensive player.

The offensive player may fake to the middle (keeping their feet still) and then, pivoting on their baseline foot, quickly spin past the defender. It is easiest if they pivot on the heel of their foot, turning their toe towards the baseline.

The post player steps with their "high foot" closest to the half way and it lands well behind the defender. They should turn 180°, stepping to the basket not towards the baseline.

2.6.3 BEATING OPPONENTS

There is one skill, above all others, which players need to learn (and coaches need to learn to teach). It applies equally to offence and defence. Simply, it is the ability to gain an advantage in order to "beat their opponent".

CREATING AN ADVANTAGE

There are many highly skilled players who literally seem to have the ball "on a string" but who lack the ability to beat their opponent. Whether it is getting open to receive a pass, avoiding a defender's "block out" in order to get an offensive rebound or dribbling past a defender, winning the 1v1 contest within basketball is fundamental to success.

For example, an offensive player may use a dribble move in order to shift the defender (or get them to shift their weight in one direction). If successful, this gives the offensive player an advantage that they can "exploit" by now going past the defender in the other direction.

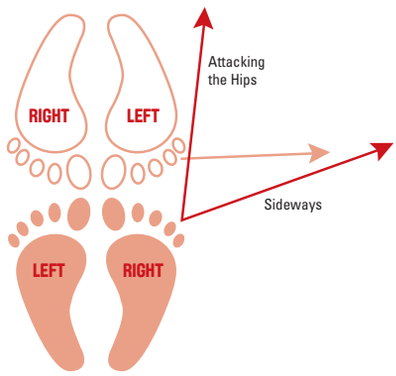
Accordingly, coaches must include "contested" elements even if they are within the context of a fun activity in each practice so that players can develop this necessary skill. It is as much a "mindset" as it is a physical skill.

"FOOT ADVANTAGE"

Whether offensively or defensively, whichever player gets their foot in front of the opponent has the preferable position. Particularly in post play, it is common to see players pushing/holding with their arms and upper body trying to get position. However, it is getting "foot advantage" that is key to winning the contest.

TAKING THE ADVANTAGE "ATTACK THE HIPS"

Offensively players want to get past their opponent and they best way to do this is to "attack the hips". Many players will move to the sideway, which gives the defender the chance to recover. When the offensive player "attacks the hips" the defensive player cannot recover easily, as shown below:



COMBINATION MOVES

A skilled opponent may be able to react in time to an initial move, however the player can still beat the opponent by making a second move – combining a "fake crossover" dribble with an actual crossover. The key is to not perform the combination moves too quickly. Give the opponent time to react to the first move, and then beat them with a second move!

CHANGING PACE

A player that moves at the same pace all the time is much easier to defend, mostly because it is predictable. Even if they are fast enough to beat one opponent, the team can counter this by switching. However, using a change of pace is a very effective way to beat an opponent.

Often when a player slows, their opponent may relax (and move out of a good stance), and can then be beaten by quickly moving again.

MOVE BACKWARDS TO GO FORWARDS

Similar to changing pace, changing direction is also a good way to beat an opponent. In particular, when dribbling often dribbling backwards will result in the defender "lunging forwards", which provides an opportunity to get past.

To many players keep dribbling forwards, which makes setting "traps" or "double teams" much easier.

CONTACT!

Basketball is a contact sport. Often contact results in a foul, however incidental contact is not called a foul. Offensive players (particularly when doing a lay-up) too often try to avoid contact, which results in being off balance and missing the shot.

Obviously, if a defender has good defensive position in front of the offensive player, the offensive player must avoid any contact. However, when attempting a lay-up (with defenders on the side), the offensive player's focus should be on "attacking" the basket and scoring the basket, not worrying about avoiding contact.

"WALK AWAY FROM THE FIGHT"

With older athletes it is common to see them fighting for position, particularly in post play, although it also happens when players are cutting or using screens. Sometimes it is more effective to "walk away", almost as if you are not going to be involved in the play.

This will often result in the defender turning their concentration to being a "help" defender. Once they do this, is the perfect time to attack! The offensive player should particularly remember that if they can see the back of their opponent's head, their opponent cannot see them!

"READS NOT RULES" – "THE DEFENDER TELLS YOU WHAT TO DO"

A common mistake with young players is that they will decide what they are going to do (e.g. pass in a 2x1 situation) well before the decision needs to be made. Where a team has set offensive rules (e.g. Player A passes to the wing and then cuts to the corner), inexperienced players will follow that rule without exception.

However, an offensive player must remember that the "defender tells them what to do". This is an example of a player reacting to what their opponent does and coaches should be careful that they are not too strict in requiring "set plays". For this reason, "motion" offence is the preferred offence initially with junior athletes.

FOLLOW-UP

1. Who are your most effective players in regards to scoring in the low post? Does your team actively create shots for that player in the low post?
2. Discuss the following statement with a coaching colleague:

   The most effective post play is often when a guard posts up their defender. Most coaches don't teach guards how to defend the low post, so a guard that has basic post moves can score easily.
3. How would you defend a low post player that was effective at using a forward spin move?

LEVEL 2

PLAYER

CHAPTER 3

PHYSICAL PREPARATION

CHAPTER 3

PHYSICAL PREPARATION

3.1 STRENGTH AND CONDITIONING

3.2 NUTRITION

3.3 PHYSICAL RECOVERY

3.4 INJURY MANAGEMENT

3.1 STRENGTH AND CONDITIONING

3.1.1 PREPARING PLAYERS PHYSICALLY TO PLAY BASKETBALL

Basketball requires players to display high levels of speed, strength, power and flexibility and then repeat efforts time and time again during the game.

This section has been contributed by:

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Australian Men's & Women's Basketball Team's Strength & Conditioning Lead's, Strength & Conditioning Discipline, Australian Institute of Sport

INTRODUCTION

Basketball requires players to display high levels of speed, strength, power and flexibility and then repeat efforts time and time again during the game.

Players of the game at the highest levels train their body's physical capacities to their highest levels. No longer is it good enough for the player to rely on their natural skill level as a player to excel in the sport.

This section is designed to help Basketball coaches to determine what physical qualities each of their players need to be developed. These qualities can cover both strength and fitness capacities and need to be planned for over the season.

To optimize the physical preparation of players, coaches must have an understanding of what the qualities are and when to prescribe them. Once past the base level, Basketball Coaches must consult a Strength & Conditioning coach to optimize this area of training and development for the player to attain the highest level.

PHYSICAL QUALITIES

The following physical qualities need to be factored into every player's programme to enable them to excel in all physical facets of the game.

Strength –
: the ability of the body to create a force or overcome a resistance. This quality is a key component in injury prevention as well as being one of the building blocks to the player becoming more explosive or powerful.

Power –
: is the combination of speed and strength together. It is the ability of the body to exert a big force in a very short period of time.

Muscular Endurance –
: is the ability of the body to perform at a specific level of play or display a maximal effort for extended periods of time.

Range of Motion –
: is the ability of the body to move across the appropriate full range of movement to optimize the skill being performed. We usually consider this in the context of a particular joint (e.g. shoulder, hips). For example, a player may find it difficult to get their elbow under the ball when starting a shot due to limited range of motion in their shoulder. This includes flexibility for those players that cannot attain the required full range of motion to effect the optimal skill execution.

Coordination –

is the body's ability to perform efficiently with all muscles of the body working together for optimal performance within whole body movements to execute the required movements and skills of the game. An example of this is shooting – where the legs provide the power for the shot and must work in coordination with the upper body.

These physical qualities fit together to make the player move as efficiently as possible. Coaches must assess how a player performs the skills of the game so that they can identify the appropriate training methods and activities to accomplish the performance shifts needed for each player to perform at a higher level This chapter is general guide on how to undertake this at a beginner level.

Designing a programme for basketball involves planning both your team's and the individual players training to produce the highest possible results in the required physical qualities at the appropriate times. Ideally, this means that a yearly plan must be produced to enable the appropriate training modalities to be assigned at the right time. In situations where the coach may work with the players for less than a year, the plan should also take into account work the athletes may be doing in other programs.

The plan will also enable you to split the year into training periods of time that will address the appropriate performance aspects. Each of the qualities that you identify to improve will take different periods of time to adapt. This must be catered for in the time allocated and the improvement levels expected.

MYTHS ABOUT STRENGTH TRAINING

Some players may question the appropriateness of undertaking this certain types of training and there are many myths as to what are appropriate training modalities exist.

Some common misconceptions are:

Strength Training will make me muscle bound and slow

This has no scientific basis as an element of improving speed is for the player to be able to produce more force. To increase the muscles ability to produce force, a player has to train with increased resistance in the activities they undertake.

Strength Training will affect my shot

As the player's muscles develop and can create greater force, the muscles requires a lower percentage of its overall capacity to undertake the same activities that they have always done.

For example, if shooting a three point shot initially required all the force a young athlete has, then as they get stronger, it may only take 80% of what their muscles are now capable of. The player's body will adapt to this quite quickly, although for a short time they may feel "different" when shooting. The benefit of having increased strength is that taking shots will now be less fatiguing, which will see an improvement in the player's performance.

Strength training will make me lose flexibility

This is not the case provided that a suitable programme to maintain flexibility is followed at the same time. Strength training does require a player use "maximal" contractions of the muscles. Accordingly, it is also very important to let the muscle fibres return to a relaxed state and length. To ensure flexibility is not compromised, players should perform some stretching during cool-down in order to maintain their initial range of motion

I will lose speed if I undertake too much aerobic training

This can happen if the training plan involves too much aerobic work. It is therefore important that coaches plan to work on both speed and aerobic capacities.

I can undertake the same programme all year round.

The body adapts to different training stimuli at different rates. Once the body gets used to the type of training the adaptation rate decreases and can get to the point where the body stops any adaptation. Applying this principle means that for the best results from a training programme, it must be changed before the body stops adaptation. This requires the players training programme to be changed every four to six weeks to maximise the adaptation rate.

MOVEMENT EFFICIENCY

This is the basis of any strength and conditioning programme and is defined as making the player as efficient as possible in performing the skills of the game. This is achieved by enhancing the physical capacities and ranges of motion that are required to undertake the skill.

These skills from a physical perspective can consist of activities such as running, jumping, shooting and passing. Each of these activities has a capacity and range of motion required for the player to be able to perform the efficiently.

To do this effectively, coaches need to have an idea of what is a good example of the right skills being performed and how these players are able to do this. Using video to gain a mental model of what is "best practice" is a good way to enhance your ability to assess if your players have good movement efficiency or not in the major skills of Basketball.

DESIGNING A PERIODISED PLAN

Coaches must outline a plan in which these qualities will be trained and at what time of the year. These periods of training can be put together so as to optimise the stimulus you can provide the player and limit the effect of fatigue. It will also enable you to prioritise certain types of training during the off, pre and post season. During competition it is advisable to plan to maintain the physical capacities of the player, as it is their performance in the game that is the priority.

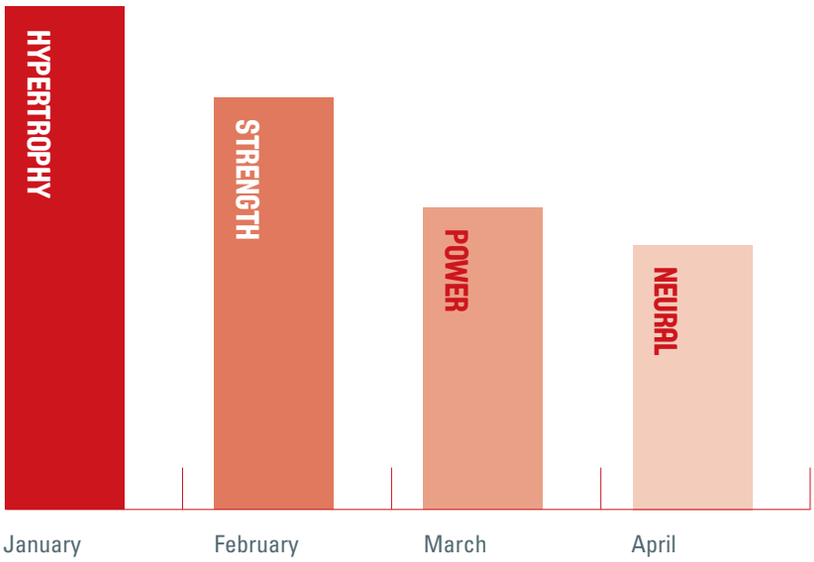
Coaches may seek assistance from trained strength and conditioning coaches, however the basketball coach still needs to understand the physical capacities required for basketball and the importance of sequencing the training.

A major consideration in putting a periodised plan together is understanding that certain physical qualities take longer to adapt than others and that some qualities can hinder the adaption rate of other qualities if they are performed out of sequence. It is also important to understand that when you stop training certain physical qualities they will start to detrain at different rates.

Splitting a training plan into different segments or periods to target particular physical qualities is known as periodising. Putting the periods together creates an overall periodised plan for the year. There are many ways to approach creating a periodised plan. The most common used by coaches with little strength and conditioning experience is a linear model. When you progress to a more complex periodised plan, the preferred method in high performance sport currently is a conjugated model.

The difference between a linear and a conjugated model is that the linear model moves from training one quality to the next in a sequential order as the player progresses to the competition. The conjugated model works on all of the qualities all of the time but the percentage of training time against each quality changes as the player progresses to the competition.

LINER MODEL EXAMPLE

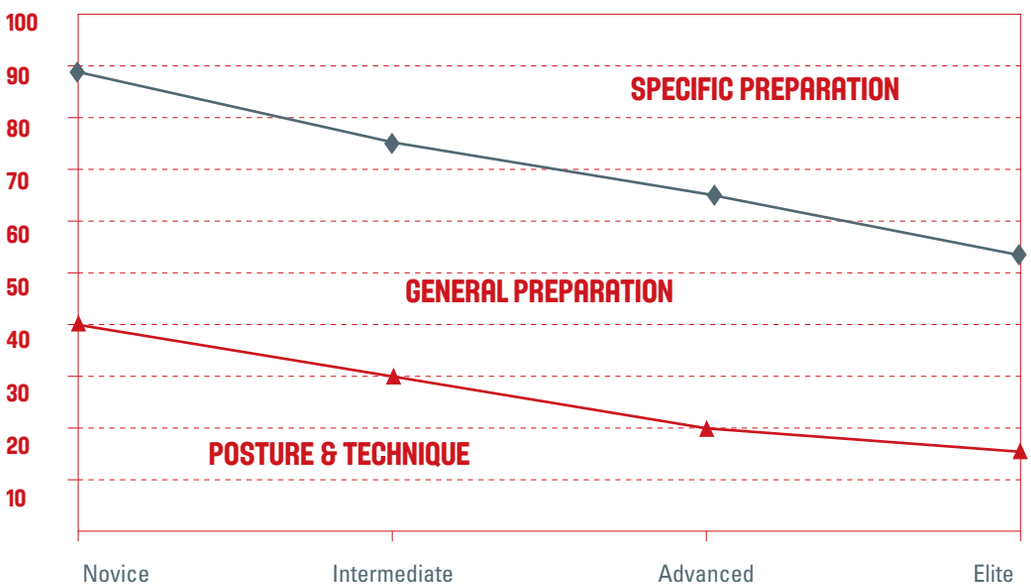


The Linear Model assumes that the quality worked on first will remain whilst progressing to the next quality and this can be achieved by including appropriate activities as part of team practice sessions.

CONJUGATED MODEL

The alternative to the linear model is the conjugated model.

In the Conjugated Model qualities are worked on concurrently, such as:



Whichever model is used, the continual prescription of training is needed to either maintain or improve the physical qualities of the player. If there is not enough training load to stimulate these qualities, a detraining effect will occur.

This means that the developed qualities will decrease – the player loses strength, or aerobic capacity or whatever has been worked on.

These qualities can start to decrease within as little as 5 days if no training is prescribed.

THE BELOW TABLE OUTLINES THE GENERAL DETRAINING TIMELINES

DAYS	DETRAINING EFFECT
3-5	Aerobic capability drops by 5%
7-9	Body's ability to use oxygen drops by 10%
10	Body's metabolic rate drops
14-16	Energy production in muscle cells begins to decrease rapidly. Loss of muscle mass, strength and tone
20-21	Body's ability to use oxygen drops by 20%
22-25	10-15% loss of muscle mass
27-29	Muscle strength drops by as much as 30%

The above timelines should be factored into the overall planning of a player's training year. The table represents figures based on completely stopping training and the timelines will vary depending on the player.

ASSESSING ATHLETES (MOVEMENT SCREEN INFORMATION)

Athlete assessment is an important element to all periodised athlete preparation plans as it assists coaches to monitor the training programs and make adjustments when required. Important considerations when making an assessment of an athlete are to determine what elements of performance are being considered and which movement do you wish to assess?

Typically, movement screenings are used as part of an initial assessment of athletes. Movement screenings can be of great value to identify basketball players at risk of injury through use of poor movement patterns as a result of insufficient range of motion, strength or stability. Program design can then be tailored to improve fundamental movement patterns with individual player's progress easily monitored and programme design validated.

Movement screenings are different from performance testing which might involve speed, strength or endurance testing. One of the most popular movement screens in the literature to date was developed by Cook termed The Functional Movement Screen (FMS). The FMS attempts to allow professionals to screen a range of fundamental movement patterns as listed below;

Sample of a basketball specific movement screening:

Movement Patterns Assessed:

- Squats – Do they favour one leg more than another, are they not symmetrical
- Overhead Squat – Do they use one arm more than another, is their balance incorrect
- Lunges – Are they better on one leg over the other. Do they maintain balance
- Landing Technique – do they absorb shock well? Do they land on locked joints
- Single Leg Jumping and Landing – are there imbalances or biases

- Repeat Effort Jumping and Landing – do they have good endurance or not

Coaches may then wish to assess the capacity of the athletes within specific movements: for instance, whether the athlete can complete the following exercises with good technique and achieve the desired repetitions:

- Single leg hamstring bridges 12/leg
- Pushups 12
- Prone Hold 1min
- SL Calf Raise (on floor) 20/leg

It is suggested that movement screenings be filmed to allow the coach to more easily assess the athletes. Athletes can then be graded and scored on each movement allowing for easy tracking of progress over time. An example of a simple scoring system is outlined below:

1 -Cannot complete exercise without major flaws

2 -Can complete exercise but with some minor flaws

3 -Can execute exercise with technical proficiency

WARM-UP FOR TRAINING

A warm-up is a popular practice that is considered by the majority of basketball players and coaches to be an essential part of any training session. A warm-up is believed to improve the players ability in the subsequent exercise performance and reduce the incidence of sports-related musculoskeletal injuries. A warm-up not only prepares the athlete for the training session to follow but can also improve the athletes' performance through mechanisms such as increased nerve conduction rate, improved force production and increased anaerobic energy provision.

The primary purpose of the warm-up is to elevate the core temperature but coaches can also use this time to reinforce movement patterns and complete injury prevention work. Warm ups will generally follow a pattern of general movement and mobilization followed by a more sport-specific intensive warm-up.

General movement involves the use of light exercise to increase heart rate, blood flow, respiration and core muscle temperature. This is usually followed by dynamic stretching to increase Range Of Movement and then introduce sport-specific movements. For example athletes begin with stationary shooting, progress to jump shots and finally player contact.

An example of warm-up for a basketball training session is outlined below incorporating the movement skills discussed in earlier chapters:

- Jog court and back x 2
- Walking lunges to half court:
  - Toe and knees point forward
  - Hips square, chest up
  - Gradually increase length of lunge with each step
- Single leg hamstring bridge 2 sets of 8/leg:
  - Hips square
  - Full range of motion
- Side lunge back to baseline
  - Increase range with each step
  - Feet to point forwards throughout
- Knee to wall calf mobility 10/leg
  - Heel remains on ground and player bends leg to touch knee to the wall, try to increase distance between toe and wall.
- Squats 10
  - Feet just wider than shoulder width
  - Chest up
  - Hips back, knees forward over toes
  - Depth
  - Heels down
- Step to vertical Jump 3/leg
  - Soft landing, absorb
  - Strong position – can you move in any direction from your landing point?

3.1.2 PREPARING PLAYERS PHYSICALLY - WARM-UP FOR TRAINING

WARM UP FOR TRAINING

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- Squats 10
  - Feet just wider than shoulder width
  - Chest up
  - Hips back, knees forward over toes
  - Depth
  - Heels down
- Step to vertical Jump 3/leg
  - Soft landing, absorb
  - Strong position – can you move in any direction from your landing point?
  - Knees remain over feet (don't come in or out)
- Partner jump to bump 5 each
  - Jump into air and upon landing partner will bump you.
  - Still land softly, absorb but be ready for impact...don't get pushed over, be in position to move.
  - This can be progressed to getting bumped whilst still in the air
- Single leg ½ Hop + Stick in 3 different directions
  - Lateral left, lateral right and forward in directions
  - Soft landing
  - Knees remain over feet

3.1.3 PREPARING PLAYERS PHYSICALLY - WARM UP FOR GAMES

WARM UP FOR GAMES

A warm-up for games should not vary significantly from the warm-up used in training apart from the duration. The athletes must still ensure that core temperature is elevated and range of motion is established. A gradual progression from low intensity to high intensity activities should be followed. It is important that all players engage in activities that simulate game like movement and intensities prior to the commencement of the game. This ensures that players who may not start the game are adequately prepared to compete when entering the game.

- 3-4mins general aerobic warm-up:
  - jogging, skipping, side steps, low high knees etc.
- 2-3min mobility work
  - Walking lunges, crawls, hamstring walks, side lunges, cat stretches etc.
- 1min static stretching any particularly tight areas (hip flexor/hamstring)
- Run throughs to half way building up intensity 50%, 75%, 85%, 95%, 100% walk back.
- Step accelerations walk back x 2
  - Walk, accelerate 3 steps, cruise through to halfway x 2
- Defensive slide (lateral defensive movement) from baseline to free throw line and back x 2/dir
- Jump to backboard, slide and jump to backboard again x 2/dir
- Jump + bump in the air with partner 5 each.
- Partner mirror 2*10each as lead.
  - In pairs, one partner moves (e.g. run to the side, jump) and their partner must mirror the moves.

3.1.4 PREPARING PLAYERS PHYSICALLY - STRENGTH TRAINING

STRENGTH TRAINING

Strength training increases a player's ability to "apply force" while performing the skills of the game. For example, a player may build up strength so that they can hold a post position without being pushed by the defender or they may jump higher as a result of getting stronger.

To increase a muscle's ability to apply force, "resistance training" must be used and this must be increased in a progressive fashion for the body to optimally adapt. The most common example of resistance training is "lifting" weights.

Strength can be referred to as an absolute or relative quality. In regard to players in Basketball, where strength qualities need to be utilised with other qualities, it is predominantly the relative quality that you want to increase. The relative quality is expressed as strength per kilogram of bodyweight. The player is not necessarily trying to increase the size of the muscle, just the force that the muscle can apply.

Accordingly, the coach needs to make sure that the strength increase occurs with as little muscle size increase as possible. To do this a good understanding of what resistance training sets and repetitions optimise what qualities.

The following table outlines which repetition ranges optimise which training response;

QUALITY	REPETITIONS	SETS	INTENSITY
Strength endurance	15-20	2-4	40-70%
Hypertrophy (increasing muscle size)	8-12	3-6	65-80%
Maximal strength	1-6	3-4	85-100%
Power	1-3	2-6	95-100%

Strength training can improve both maximal strength and hypertrophy. Hypertrophy training refers to increasing the muscle size whilst maximal strength training refers to increasing the muscles contraction force. For basketball athletes, maximal strength training is usually the priority.

For a beginner to strength training, a small amount of training volume will result relatively quickly in the body adapting and the muscles being able to produce a greater force. As the player becomes well trained, training volume needs to continue to increase to get continued increases in muscle force.

3.1.5 PREPARING PLAYERS PHYSICALLY - POWER TRAINING

POWER TRAINING

Power training increases a player's ability to apply force in the shortest amount of time. In this type of training, speed of movement is the priority and strength is a secondary priority. This is known as being velocity dependent. The player should try and maximize the amount of resistance used without sacrificing the speed of the activity or exercise.

This type of training will increase the amount of fast twitch muscle fibres the player will be able to activate and use. The player's nervous system will also work to recruit larger amounts of fast twitch muscle fibres as the speed of contraction required by appropriate exercises prescribed is increased. This is important, for example, in working on leg strength and jumping ability.

Players need longer rest periods between sets in power training compared to strength training because power training also utilises the nervous system.

For power training to be effective, player's need to have established a minimum strength level first. Therefore strength training needs to be initiated prior to power training.

3.1.6 PREPARING PLAYERS PHYSICALLY - CONDITIONING

There are three primary energy systems that can be trained for basketball:

- Aerobic,
- Lactic, and
- Alactic.

These systems can then be further broken down into two categories each of power and capacity. In this instance, power refers to the absolute performance measure for that energy system when completing a standalone effort. Capacity refers to the ability to repeat that effort on numerous occasions whilst minimising performance decline.

ALACTIC SYSTEM:

The alactic system is anaerobic (without oxygen) and supplies the primary energy for the first 10-15 seconds of exercise. For example, sprinting the length of the court or jumping for a rebound draw primarily upon the alactic system.

Many of the physical demands of basketball draw upon "alactic energy" and training for this capacity requires short, intermittent bursts of maximal activity with medium to long recovery periods. By manipulating the work to rest ratios and the time length of work specific components can be targeted.

Ratios of 1:8 with efforts of less than 7 seconds and low reps (5-10) place a significant stress on the alactic power system while more reps (8-15) with a shorter ratio to 1:6 and using efforts of 4-10 seconds promotes training of the alactic capacity system.

As a practical example, having athletes jump to touch the backboard, land and immediately jump again for 6 seconds and then resting for 40 seconds before repeating 8 times is training the alactic capacity system.

LACTIC ACID SYSTEM:

The production of lactic acid is a by-product of the body producing energy anaerobically. The aim of lactic acid system training is to improve the body's ability to metabolize and remove lactic acid. As lactic acid builds up, athletes will feel a "burn" in their muscles and it restricts the muscle's ability to work. Accordingly, the more efficiently an athlete is able to remove lactic acid and its by-products will increase the duration the body can work at maximal intensity.

To target training towards lactic acid capacity requires a work to recovery ratio of 1:3 ensuring a build-up of lactic acid in the system. The recovery period is not stopping altogether, it is continuing movement but a less than maximum effort. A larger recovery of 1:4 as seen in lactic acid power training allows greater lactic acid removal.

During capacity training, efforts will range from 6-30 seconds and recovery must be completed at 50-70% intensity. It should be noted that lactic acid system training places a significant stress on the bodies systems and as such should be used carefully and generally less than the other types of energy system training.

As a practical example a player can undertake "Temp" runs (not an all-out effort) over 200m and have a walk back as recovery.

AEROBIC SYSTEM:

Traditionally, training the aerobic system involved numerous hours of jogging (or other activity), which is time consuming and resulted in large wear and tear on the body and is not recommended for basketball players. This type of training can also result in reducing the player's speed (as the number of fast twitch fibres decrease), which is clearly not optimal for basketball.

Aerobic interval training has a much greater crossover to basketball performance and allows for a greater intensity of efforts. Simply, interval training could include sprinting, and then jogging, sprinting again etc.

Coaches can assess their athletes, maximal aerobic speed using the Yo Yo Intermittent Recovery test and therefore target training specifically to each athlete. Another test is the 12 minute test – to determine how far an athlete can run in 12 minutes.

Training at a %Maximal Aerobic Speed (MAS) at or slightly above maximum with an active recovery (50-70% MAS) will train the aerobic capacity with a work to active recovery ratio of 1:1. Efforts in capacity training will range from 15-30 seconds with high duration (e.g. sprinting) followed by 15-30 seconds at 50-70% of effort (e.g. jogging) – in total going for >15reps and a duration of at least 10 minutes.

To train aerobic power %MAS is again above maximum but passive rest is allowed with a work to rest ratio of 1:1 employed. Aerobic power sessions typically require 10-15 seconds work for between 8-16 reps [6].

GAME BASED CONDITIONING:

Small sided games (e.g. 3x3) and game based conditioning has been validated by recent research as being effective for its demands on skill as well as endurance. It is essential however that this type of training is carefully designed to evoke the desired training effect.

It can be difficult to consistently achieve and maintain the required intensity resulting in a poor or zero training effect during prolonged drills. Often athletes will also have the ability to "hide" in these type of sessions and it has been proposed that better players who possess more natural skill are not required to move as much as lesser skilled athletes and therefore do not achieve the desired training volume or intensity. There is an almost endless variety of activities available to the coach, and precise and planned variations can maximise training efficiency while minimising unnecessary stresses.

3.1.7 PREPARING PLAYERS PHYSICALLY - FLEXIBILITY

FLEXIBILITY

Flexibility is the measure of the range of motion around a joint or series of joints. Flexibility can be limited by the joints physical structure, including bone, connective tissue or muscle.

It is important to include flexibility training as part of your players' regular training. Improved flexibility can enhance performance in aerobic training and muscular conditioning as well as in sport. There is scientific evidence that the incidence of injury decreases when players include flexibility sessions into their training because of their enhanced ability to execute movement skills through a wider range of motion. The only exception to this would be when there is an excessive or unstable range of motion, which may increase the likelihood of injury.

Once the player's training is finished, they can focus on their body's range of motion across a number of joints to ensure it returns to what it was prior to the session. This is an excellent time for flexibility training because the muscles are warm and pliable, allowing them to stretch farther.

Following are some of the major benefits of flexibility training:

- Reduces the risk of injury during exercise and daily activities because muscles are more pliable.
- Improves performance of everyday activities as well as performance in exercise and sport.

Flexibility work can be classified into the following types of stretches;

STATIC STRETCHES

Is when a stretch is held in a challenging but comfortable position at the end of range of the muscle for a period of time. The stretch is usually held for somewhere between 10 to 30 seconds. Static stretching is the most common form of stretching found in general fitness and is considered safe and effective for improving overall flexibility.

When done properly, static stretching slightly lessens the sensitivity of tension receptors, which allows the muscle to relax and to be stretched to greater length.

Where static stretching is done sitting or lying on the floor, athletes may consider using a towel or a mat to ensure that the muscles do not cool-down too quickly.

DYNAMIC STRETCHES

Is a form of stretching that utilizes sport specific movement patterns and uses movement in an effort to allow the muscle to extend its range of motion not exceeding one's static-passive stretching ability.

PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION (PNF)

Combines the alternating of contraction and relaxation of both the agonist and antagonist muscles. For example, pushing down with the leg (which causes the hamstring to contract) and then relaxing and lifting the leg (to stretch the hamstring). This type of action causes the nervous system to stop contracting the muscle targeted to extend its range of motion.

3.1.8 PREPARING PLAYERS PHYSICALLY - BASIC STRENGTH TRAINING PROGRAM

BASIC STRENGTH TRAINING PROGRAM

All beginner level players will benefit from a basic strength training programme that caters for increases in strength over the whole of their body. Exercises must be sequenced to make sure that the right muscle groups are addressed in the right order.

As a general rule, larger muscle groups are worked first before smaller muscle groups, and multi joint exercises are prescribed before single joint exercises. The number of sets for each exercise should start at three and progress as the training age of the player increases.

In order training sessions to help the body adapt as much as possible, a minimum of three sessions per week should be scheduled for beginners. This allows enough stimuli to optimise the adaptation by the players. The sessions should be spaced out over the week to allow for recovery between sessions, but often enough to have the body to continually adapt to the training prescribed.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
X		X		X		

Above is an example of a well-spaced weekly strength training plan.

The number of different sessions per week should be limited to two initially. This enables the exercises prescribed to have enough effect on the body to stimulate adaptation.

If you constantly change the exercises the body does not have enough time to adapt to the load effect of the prescribed exercise and thus shortens the time that the body will adapt to it.

SESSION 1	REPETITIONS	SETS
Bench Press	6	3
Seated Row	8	4
Squats	5	3
Lateral Pull downs	8	4
Cable Trunk Rotations	8	4
SESSION 2	**REPETITIONS**	**SETS**
Dumbbell Shoulder Press	6	4
Bench Pull	8	3
Dumbbell Lunges	6	4
Triceps Press	8	3
Dumbbell Curls	8	4

This programme should be followed for 4-6 weeks and then changed to ensure continued adaptation. Rest periods of 2 minutes should be taken between each set.

Each exercise should be undertaken with a load that enables the player to achieve all of the repetitions without failure whilst being very hard to complete the last 2 repetitions.

BASIC BODYWEIGHT PROGRAM

The following sessions are examples of bodyweight exercises that can be completed on a basketball court with minimal equipment. Depending on the time allowed for training, these sessions can be implemented separately throughout a training week or incorporated into skills training.

A simple method if highly restricted for time would be to include some of these exercises as part of the athletes, warm-up for training.

The exercises in these tables are done in sets so that those with the same letter are repeated together, i.e. one set of A1, and then one set of A2, brief rest, and then repeat until the described number of sets is achieved. This programme should be maintained for 4-6 weeks and then progressed with an increase in sets and/or repetitions.

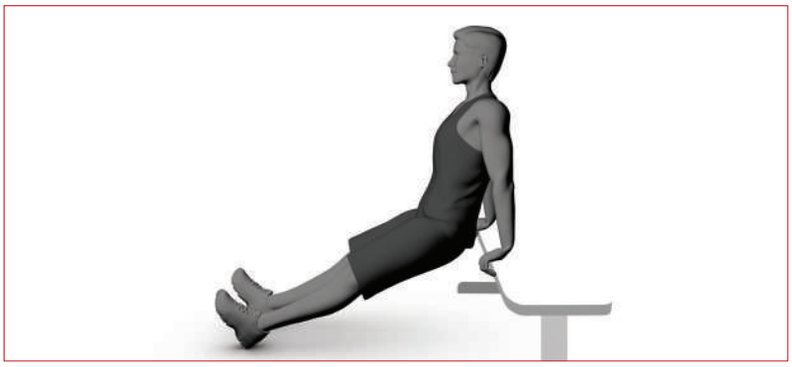
See below for further information on the various exercises. Coaches should pay particular attention to athletes keeping their body as shown in the photographs.

SESSION 1	SETS
1A Backboard Tips – rebound off ground quickly	3*5
1B Clap Push Ups	3*5
2A Single Leg Hamstring Bridge	4*8/leg
2B Push Ups (vary grip, narrow, offset, close)	4 * max
3A Bulgarian Lunge	4*8/leg
3B Bench Tricep Dips	4*12
4A Prone Hold	2*1min
4B Side Hold	3*30sec/side
SESSION 2	**SETS**
Circuit 1	2-3 sets
Squat (pause at bottom)	x10
Perfect pushups	x10
Crunches	x20
Single leg hamstring bridge	x10/leg
Side double leg lift	x20/side
Circuit 2	2-3 sets
Forward and back lunge	x6/leg
Bench dips	x10
Prone hold	x30sec
Single leg calf raise	x20/leg
Bent knee feet to ceiling	x20
Circuit 3	2-3 sets
Lateral lunge	x8/leg
Push up hold arm lift	x10/arm
Side hold	x30sec/side
Single leg squat to box	x10/leg
Crunch hold 5 sec foot change	x1 minute

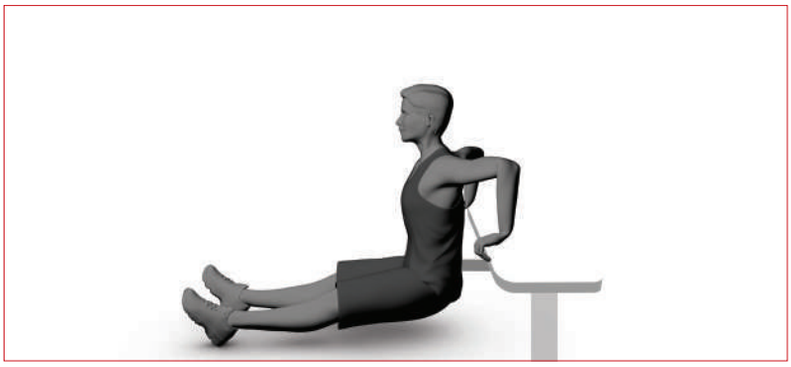
Below are descriptions of each of the exercises listed above.

BENCH TRICEP DIP

Starting Position



End Position



BRIDGED HIP EXTENSION – SINGLE LEG

Starting Position

End Position

BULGARIAN LUNGE

Starting Position

End Position (left)

Extended End Position (right)

HIP EXTENSION

Starting Position

End Position

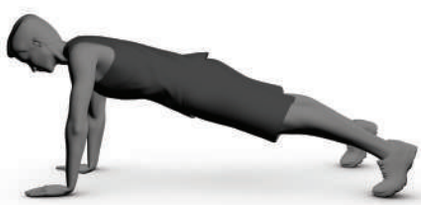
HIP EXTENSION CONT...

End Position - single leg

PRONE HOLD

PUSH UP WITH CLAP

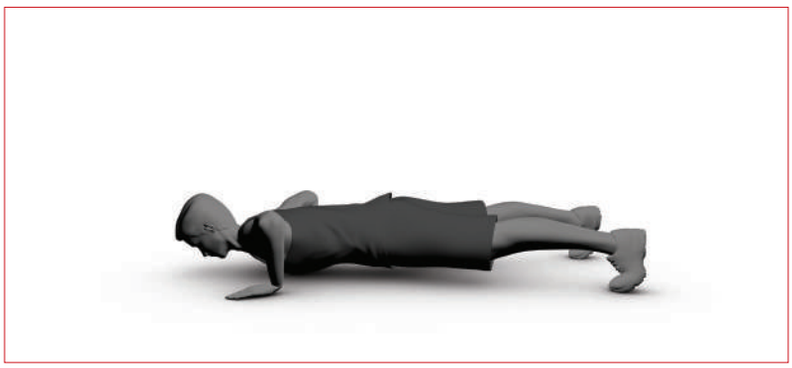
Starting Position



Clap

PUSH UP WITH CLAP CONT...

End Position

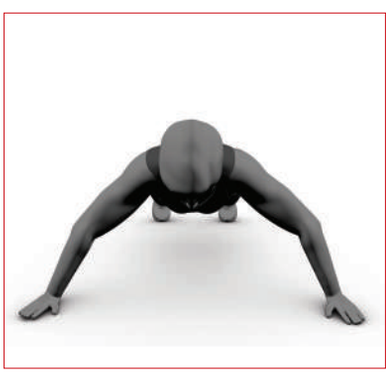


PUSH UPS

Standard Position (left)

Narrow Position (right)

Wide Position



SIDE HOLD

RECOMMENDED FURTHER READING

For further information on the topics listed above, the follow reading list is recommended;

- Essentials of Strength Training and Conditioning – Baechle T.R
- Designing Resistance Training Programs – Fleck S & Kraemer W
- Strength Training for Basketball – Pauletto B
- High-Performance Training for Sports – Joyce D & Lewindon D

3.1.9 BASIC OFF-SEASON PREPARATION

To play basketball at the highest level it is necessary for you have a high level of physical and mental fitness. A "fitter" player will be able to execute skills better at the end of a game than a player that is not as fit. Similarly, a "fitter" player will make better decisions at the end of a game than a player that is not as fit.

Below is an example of an "off-season" programme that could be given to junior athletes. It is a generic programme, and is not tailored to any particular athlete. This is not provided as a "definitive" programme that coaches must follow and instead is provided as an example. Coaches are encouraged to develop their own programs and to seek advice or assistance from appropriate experts.

There are 3 aspects to the fitness programme:

(a) Aerobic Fitness;

(b) Basketball Skills and Ball Handling;

(c) Other Fitness.

ACTIVITIES	FREQUENCY	GUIDELINES
(A) AEROBIC FITNESS	• Do **3** activities each week.	• Only do **1** aerobic activity a day and allow one day of rest between sessions (eg do aerobic sessions on Monday, Wednesday and Friday). • Don't do any of the speed activities in the first month of training (you need to improve your general aerobic fitness before doing these).
(B) BASKETBALL SKILLS & BALL HANDLING	• Do **3** activities each week.	• You must do at least one shooting activity per week but you cannot do one activity more than twice. • Do no more than **2** basketball skills/ball handling sessions a day. • Do not do on any day when you are doing an aerobic fitness **and** other fitness activities.
(A) OTHER FITNESS	• Do **3** activities each week.	• Do not do on any day when you are doing an aerobic fitness **and** basketball skills/ball handling activities. • Only do **1** of these activities a day.

AEROBIC FITNESS

Make sure you warm-up before the session.

- 20 push ups (on knees)
- 20 squats
- Jog a lap of the court
- 20 "crunches" (a sit up, but only come about half way up to your knees)
- 20 lunges (each side);
- Jog a lap of the court
- Stretching as required (no more than 5 minutes).

ACTIVITY	NOTE
4km run	Run on grass or an oval rather than on concrete/road.
15minute run	Run continuously for 15 minutes and record how far you run. Your target is to run: *Guards* 3.7km in 15minutes *Forwards* 3.5km in 15minutes *Centres* 3.2km in 15 minutes **NB:** Walk when necessary for 30 seconds and then jog again.
1km swim	To help keep your intensity during the session, count the number of strokes it takes you to do one lap. Then count your strokes for each subsequent lap. If a lap takes more strokes than "normal" for you, then you need to go a bit harder the next lap.
5km cycle	This can be done on a stationery bike or outside. If riding outside, use bike paths whenever possible and make sure that you wear a helmet. Use a low gear and make sure that you always pedal.
Court Run	Do the following set of exercises continuously for 15 minutes. Record how many times you repeat the set: 1. Start on baseline, complete 10 push ups 2. Sprint to other end of basketball court; 3. Lie on floor, complete 10 full sit ups; 4. Jog 2 laps of the court.
Speed 1 **NB:** Build aerobic fitness before doing speed activities.	**NB:** Build up aerobic fitness first before doing these activities. Do the following 3 activities:  1. Run the first 7 metres at 50%, the second 7 metres at 75% and the last 7 metres at 100%. Walk back and repeat 5 times. 2. 5 x 50 metre sprints (start each rep at 50 second intervals). Jog back to start. 5 x 30 metre sprints (start each rep at 40 second intervals). Jog back to start. 5 x 20 metre sprints (start each rep at 30 second intervals). Jog back to start. 3. Slide A to B, Slide B to C, Slide C to A and Sprint A past D. Repeat 5 times, walking back to the start for recovery.

<table>
<tr><th>ACTIVITY</th><th>NOTE</th></tr>
<tr><td>Intensity Runs</td><td>
Set 1 at 60% max speed
<table>
<tr><th></th><th>acceleration</th><th>steady pace</th><th>deceleration</th><th></th></tr>
<tr><td>1)</td><td>10m</td><td>20m</td><td>10m</td><td>x 3</td></tr>
<tr><td>2)</td><td>9m</td><td>20m</td><td>9m</td><td>x 3</td></tr>
<tr><td>3)</td><td>8m</td><td>20m</td><td>8m</td><td>x 3</td></tr>
<tr><td>4)</td><td>7m</td><td>20m</td><td>7m</td><td>x 3</td></tr>
<tr><td>5)</td><td>6m</td><td>20m</td><td>6m</td><td>x 3</td></tr>
<tr><td>6)</td><td>5m</td><td>20m</td><td>5m</td><td>x 3</td></tr>
</table>
Set 2 at 75% max speed
<table>
<tr><th></th><th>acceleration</th><th>steady pace</th><th>deceleration</th><th></th></tr>
<tr><td>7)</td><td>10m</td><td>20m</td><td>10m</td><td>x 3</td></tr>
<tr><td>8)</td><td>9m</td><td>20m</td><td>9m</td><td>x 3</td></tr>
<tr><td>9)</td><td>8m</td><td>20m</td><td>8m</td><td>x 3</td></tr>
<tr><td>10)</td><td>7m</td><td>20m</td><td>7m</td><td>x 3</td></tr>
<tr><td>11)</td><td>6m</td><td>20m</td><td>6m</td><td>x 3</td></tr>
<tr><td>12)</td><td>5m</td><td>20m</td><td>5m</td><td>x 3</td></tr>
</table>
Set 3 at 90% max speed
<table>
<tr><th></th><th>acceleration</th><th>steady pace</th><th>deceleration</th><th></th></tr>
<tr><td>13)</td><td>10m</td><td>20m</td><td>10m</td><td>x 3</td></tr>
<tr><td>14)</td><td>9m</td><td>20m</td><td>9m</td><td>x 3</td></tr>
<tr><td>15)</td><td>8m</td><td>20m</td><td>8m</td><td>x 3</td></tr>
<tr><td>16)</td><td>7m</td><td>20m</td><td>7m</td><td>x 3</td></tr>
<tr><td>17)</td><td>6m</td><td>20m</td><td>6m</td><td>x 3</td></tr>
<tr><td>18)</td><td>5m</td><td>20m</td><td>5m</td><td>x 3</td></tr>
</table>
</td></tr>
<tr><td>Fartlek Pyramid</td><td>Complete this on grass or a softer surface; it can be completed around an oval, on a track, or on straight lines.
15 seconds hard, 15 easy; 30 seconds hard, 30 easy; 45 seconds hard, 45 easy, 60 seconds hard, 60 easy (5 minutes total - continuous).
Once you have completed one Fartlek Pyramid perform an active recovery (walk, jog, abdominal work) for three minutes.
Repeat the Fartlek Pyramid and active recovery protocol two more times (therefore a total of three sets).</td></tr>
</table>

BASKETBALL SKILLS & BALL HANDLING

Do **1** of the sessions described below **3** times each week. You must do at least one shooting activity each week and you cannot do one activity more than two times in a week. Record which activity you did and, where relevant, your score. Do not do more than **2** of these sessions in a day and don't do any on a day when you are doing an aerobic fitness session **and** another fitness activity.

ACTIVITY	
1. Passing	**Against the Wall** Do **30** of each pass against a wall (or with a partner). Stand 3-4 metres away from the wall/partner. Alternate which foot you step forward with as you pass the ball. With one-handed passes, also step to the side (as if passing around a defender). • 2 handed chest pass • 2 handed bounce pass • Right handed push pass • Left handed push pass • Behind the back (both right and left hand) • Pass off the dribble. Dribble 5 times, then pass. Do 30 right hand and 30 left hand. **2 Balls Against the Wall** Stand 2-3 metres away from a wall, dribbling two balls. After 5 dribbles, pass one of the balls against the wall. Keep dribbling the other ball. Catch the ball you passed and dribble it. After another 5 dribbles, pass with the other hand. Go for 3 minutes. **Hit the Target** Pick a brick on the wall that is about chest height and mark it with some chalk. Start about 10 – 15 metre away from the wall and dribble to the wall. Come to a jump stop and pass at the brick you have marked. If you hit it, you get 1 point. If you miss it, you lose a point. Continue until you have 25 points.
2. Dribbling	**Stationery 1 Ball Dribbling** Do **30** seconds of each dribble move. Don't pick the ball up between moves. • Front (Cross-over) • Back (Cross-over) • Right/Left. Dribble in a "V" on the side of your body. 30 secs each hand. • Right/Left Fake Crossover - in a "V" with one hand, in front of your body. 30 seconds each hand. • Right/Left Round. Dribble around your right leg with your right hand for 30 seconds. Then around your left leg with your left hand. **Stationery 2 Ball Dribbling** Do **30** seconds of each dribble move. If you lose one ball, keep dribbling the other one while you retrieve the one you lost. • Front. Dribble both balls in front and keep changing hands (so you are doing a crossover with each ball). • Side. Dribble both balls in a "V" at your side. • Side Alternate. Dribble both balls in a "V" at your side. As one goes forward, the other goes backward. • Dribble Hard/Low. Do 5 dribbles (with each hand) as hard as you can (keeping ball no higher than the top of your shorts), and then do 5 dribbles with the ball no higher than your knee.

ACTIVITY	
	Full Court Dribbling Dribbling up and back 2 times, with the following dribble moves: > Cross over > On-side > Retreat and cross over (or fake cross over) > Between the legs > Hesitation > Fake Cross over > Behind the back > Combination moves
3. Footwork	**"2 Slides"** Get in defensive stance. Take 2 slides to your left and then 2 slides to your right. Wait (in defensive stance) for 3 seconds, then repeat. Do for **30** seconds and then rest. Repeat **5** times. Make sure correct footwork is used – "big" to "bigger". **"Slide-Run-Slide"** Get in defensive stance. Take 3 slides, then 3 running steps then 3 slides. Repeat **30** times on each side of the basket. Rest for 30 seconds after each 5. When going from slide to run do not bring your feet together – you still go from a "big" stance to a "bigger" stance. **"Square Up"** Stand in the low post position and spin the ball to the 3 point line. Cut out, catch the ball and square up to the basket. Shot fake, drive fake and then drive to the basket for a lay-up. Do **30** times on each side. Make sure you use the baseline pivot foot.
4. Shooting	A) Inside the key • Jump shots (X 10) • Layups (X R 10 and L 10) • Mikan shots (X R 10 and L 10) B) Jump shots from 15- 20 feet • Make 10 from right wing, from the point and from left wing C) One bounce jump shots • Make 10 from right wing, from the point and from left wing D) Two/Three bounce jump shots • Make 10 from right wing, from the point and from left wing E) Pull up jump shots • Make 10 from right wing, from the point and from left wing F) Post moves • Drop step power layup (X 10) • Dropstep hook shot (X 10) • Dropstep, shot fake, step through (X 10) • Turn and face shoot (X 10) G) Three point shots • Make 10 shots from 5 spots H) Foul shots • Make 30 free throws in groups of 2 (jog up and back in between groups)

ACTIVITY	
5. Hand-Eye Coordination	Use a tennis ball and stand 1 – 2 meters from a wall. **Same hand, same catch** With 1 hand, throw the ball against the wall and catch it using the hand you threw with. Complete one set throwing with the left hand and then right hand once, followed by one more set on your non-preferred hand. 30 throws per hand. **Opposite hand, opposite catch** Same as above but throw the ball with one hand and catch it with the other. **Wall dribbling** Face the wall 1 meter away, begin dribbling against the wall using an OLD basketball or tennis ball. Have the arm extended and ball about 10cm from the wall and use left and right hand and dribble combinations (side to side, up and down, crossovers). Dribble for 2 minutes and rest for 1 minute. Repeat 4 times.

OTHER FITNESS ACTIVITIES

Do **1** of the activities described below **3** times each week. Do not do any of these activities on a day when you are doing an aerobic fitness session **and** a basketball skill/ball handling activity.

ACTIVITY	
1. Body Weight Strength Program	Go through each of the following exercises three times in the order they are shown, with no more than 1 minute break between each series of exercises. **Repetitions** To determine how many exercises you should do in each set, find out how many you can do without stopping. Work out 60% of this amount and this will be the number of exercises you should do in each set. e.g. If the maximum number of crunches you can do is 15 (without stopping), then 60% of 15 is 9, so you will do 9 crunches each set. After commencing the programme allow yourself time (1 – 2 weeks) to allow your body to adjust to the increased work levels. When you find yourself completing exercises easily add one or two more exercises to each set i.e. using our crunch example go from 9 crunches to 11 crunches each set. **Push Ups** - hands slightly wider than shoulders width apart - chest straight to ground before pushing up - body straight o Stage 1 – Knees on ground i.e. feet off ground (use this method until strength improves) o Stage 2 – Toes touching ground (use when strength has improved) **Lunge** - feet together then step forward with one leg keeping other leg in the same position as the start - keep your back straight and make sure your front knee is not ahead of your toes - bring the leg back to start position. Lunge forward with the other leg **Crunch** - lie flat on floor, with your legs bent at a 90º angle - keep your hands in contact with the side of the head and keep your neck to your chin - raise the torso to the ½ way point between flat and fully curled, then return to flat **Dips** - face away from a medium height bench, wall, or chair - hands on the bench, arms straight, legs in front, feet flat on floor - keep the legs still, bend the arms, allowing the body to lower in front of the bench, straighten the arms to return to start **Defensive Squat Jumps** - start in defensive stance (low!) - bring feet together quickly and jump (explode) up, bringing hands high above your head - land and return into stance

ACTIVITY	
2. Skipping Rope	• Do 2 minutes of continuous skipping at medium pace. • Do 30 skips at maximum pace followed by 20 skips at medium pace. Repeat 10 times. • Do the following rope skipping exercises for one minute each: - Alternating right and left feet - Two feet – jumping in a box (forwards, sideways, backwards, sideways) - Right foot – jumping in a box - Left foot – jumping in a box - Heel/toe
3. Plyometric Jumps	Repeat the following three activities 3 times A. Stand in front of the backboard (or a wall). Jump off two feet and touch the net/backboard/wall (as high as you can) with your right hand, land and jump immediately to touch with your left hand. Continue until you have touched 8 times with each hand. Repeat 10 times, allowing 2 minutes between each set of 8. B. Stand in front of the backboard or wall. Take one step forward with your left foot and jump to touch the backboard/net/wall (as high as you can) with both hands. Next time step forward with your right foot. Repeat until you have done 20 jumps (10 stepping forward with the right and 10 with the left). C. Stand one metre from the backboard/wall, take two steps and jump off both feet to touch the backboard/net/wall (as high as you can) with two hands. Repeat 10 times.

3.2 NUTRITION

3.2.1 NUTRITIONAL CONSIDERATIONS FOR ATHLETES

This chapter contains general information, and individuals should not rely upon this information without seeking further advice from appropriately qualified individuals.

This chapter has been contributed by:

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There are two further aspects in which coaches can assist their players to be prepared to perform at their highest level:

(a) Nutritional strategies;

(b) Recovery strategies.

To perform, athletes need to be adequately "fuelled", and whilst coaches are not expected to be "experts" in regards to nutrition, they should be able to give some general advice to players and also to assist them, if necessary, in seeking more detailed advice.

"Recovery" is simply the ability of an athlete to get their body ready for the next training/game following physical exertion.

TRAINING NUTRITION

The role of an athlete's everyday diet is to promote good health and maintain the enjoyment of favourite foods and social eating opportunities, as well as to support the special needs of their sporting commitments.

Regular training increases the body's demand for energy and a variety of nutrients that allow it to complete and adapt to the exercise tasks. Combining these with the additional requirements for growth and development during adolescence presents a challenge for the young basketball player and their family.

Good food knowledge must be matched by practical nutrition skills and careful organisation to assist the junior athlete to fit in the necessary meals and snacks around their school, sport and social commitments.

However, with a few key strategies it is possible to meet these requirements and to prime the body for optimum performance.

CARBOHYDRATE INTAKE SHOULD REFLECT DAILY TRAINING DEMANDS.

Carbohydrate is the preferred muscle fuel for high intensity exercise as well as an important brain fuel. It is obtained in the diet from grains and cereal-based foods, fruit, starchy vegetables and legumes.

Since basketball is a sport that incorporates many short bursts of high intensity activity around skill execution and decision making, it makes sense to have adequate carbohydrate supplies on board for each practice. The flip side is that insufficient carbohydrate supply can impair performance with signs including early fatigue, poor skill execution and a reduced ability to concentrate.

Daily carbohydrate intake should track with the demands of training – increasing on days with hard practice and decreasing on rest days or during a break. An easy way to achieve this, which also ensures that fuel intake is centered on the time it is most needed, is to incorporate extra carbohydrate containing snacks before and perhaps after the training session, while forgoing those snacks on days without training or when the session is easy or skill-based.

HYDRATION AND FUEL AROUND PRACTICE

Good hydration habits contribute to sustained performance and concentration during training sessions. Many young people are not good at staying well hydrated over the day, either because their thirst does not fine tune their drinking behaviour or because their busy lifestyle doesn't provide enough access to fluids.

Although there is some debate over the level of dehydration associated with an impairment of sports performance, it is usually recommended to keep fluid losses to less than 2% of body mass (e.g. 1 kg for 50 kg athlete, 1.5 kg for 75 kg player). Some studies in basketball have shown that fluid deficits of this volume can interfere with skill and endurance, as well as increase the perception of how hard an exercise task feels.

Training sessions are the time to develop good drinking habits; each player should check that they consume adequate volumes of well-chosen fluids over the day so that they arrive to the session well-hydrated, and then drink appropriately during practice. A good drinking plan should allow fluid intake to track with sweat losses over the session, neither allowing a large deficit to occur nor excessively over-hydrating. The coach should play a role in enabling and encouraging these practices (see checklist).

Water is sufficient to meet rehydration goals for easy or skill based training sessions, although carbohydrate containing drinks (e.g. sports drinks, cordial/Kool-Aid or juice) may provide high-energy consumers with another contribution to their daily Calorie/kilojoule targets. Fuel-containing drinks or snacks consumed just before and during practice may promote endurance and concentration over long sessions of higher-intensity work, and should be factored into the daily carbohydrate targets. (see checklist).

RECOVERY AND ADAPTATION TO TRAINING

Recovery after a hard practice calls for intake of the key nutrients for rehydration (water and electrolytes), refueling (carbohydrates), repair and adaptation (protein and vitamins/minerals). In many cases, there is value in promoting early recovery by consuming these nutrients soon after the session (e.g. within a 30-60 min window). This may be as simple as following the session with the next meal, but may also need the preparation of a well-chosen snack.

Adolescent athletes who must travel long distances to and from training may need to plan ahead with ready-to-eat snacks or meals that can be consumed while travelling. When all members of the team are in the same situation, a recovery table can help everyone recover quickly to restore performance for the next session.

3.2.2 NUTRITIONAL NEEDS FOR GOOD HEALTH AND WELLBEING

The body requires energy for growth, and other incidental exercise and for the healthy functioning of many body systems.

The body requires energy for growth, sport and other incidental exercise, as well as the healthy functioning of many body systems. When a player fails to achieve their energy budget, either because energy intake is restricted (for example, with excessive weight loss diets or fussy eating) or high volume training is undertaken without adequate energy replacement, some of these processes miss out.

This can lead to reduced growth and development, delayed menarche (the first occurrence of menstruation), increased risk of illness and injury and reduced performance gains. Planning meals and snacks around needs can help to avoid this problem.

Protein provides a source of energy in the diet, but more importantly, it provides the building blocks for new tissues for adolescent growth and development, as well as repair and adaptation to exercise. Protein is found in both animal-derived foods (meat, poultry, fish, eggs and dairy) and vegetable sources (e.g. legumes, nuts, cereals, soy product), with the animal sources being considered higher quality.

Although many athletes think that high-protein diets are needed for sport, in fact, the best way to meet additional protein needs is to include a modest serving of protein in the post-training/game meal, as well as 3-5 meals and snacks over the day. There is no need for expensive protein supplements. Excessive consumption of protein can be detrimental if it displaces other important nutrients in the player's diet or requires excessive costs to the food bill.

Minerals also play a role in the development of new tissues as well as the regulation of body metabolism. Iron is important for the development of red blood cells and the brain, while calcium is essential for the formation and maintenance of healthy bones and teeth. Foods rich in these and other minerals (see checklist) should be regularly included in meals and snacks.

Vitamins and other more recently identified chemicals can be found in a range of plant foods (fruits, vegetables, grains, nuts and legumes) and animal sources. Dietary variety and a focus on nutrient-rich foods at each eating occasion will ensure that the player receives the health benefits of these products without the need for dietary supplements.

Indeed, since many foods are excellent sources of several key nutrients (see checklist), or can be mixed and matched with other choices at meals and snacks, good menu planning will allow players to meet all their nutrient needs, including additional requirements arising from their exercise programme.

Adolescence is a time of growing independence in many areas including social eating and food habits. Indeed, it is ironic that the player may have greater need for family support to meet their special nutritional needs for basketball within a busy lifestyle, just as

they are trying to become responsible for their own choices and outcomes. It is an important time to help the young player develop the knowledge and practical skills to manage their own nutritional needs.

It is sometimes challenging to develop an interest in exploring the range of colour, texture and tastes of wholesome food choices - particularly fruit and vegetables - in children and adolescents.

Nevertheless, it is an important feature to develop in the player's nutrition plan. Not only does it enhance the nutrient density of the diet, but it helps to develop the flexibility in eating patterns that is necessary to survive the rigour of travel that becomes part of the life of a high performance athlete.

CHECKLIST OF FOOD SOURCES OF KEY NUTRIENTS

CARBOHYDRATE RICH FOODS	PROTEIN RICH FOODS	IRON RICH FOODS	CALCIUM RICH FOODS
• Breads	• Fish	• Beef	• Milk
• Rice, pasta, noodles and other grain foods	• Chicken	• Lamb	• Cheese
• Oats & breakfast cereals	• Beef & lamb	• Chicken	• Yoghurt
• Potatoes, yams and starchy vegetables	• Eggs	• Legumes	• Calcium fortified soy milk products
• Fruit	• Milk, cheese & yoghurt	• Tofu	• Fish with soft bones
• Flavoured milk and yoghurts	• Legumes	• Iron fortified breakfast cereals	• Leafy green vegetables
• Honey and jam	• Tofu and soy products		• Almonds

3.2.3 STRATEGIES TO PROMOTE HYDRATION AND FUELING

Ultimately, athletes should take responsibility for their own hydration and eating, however, particularly young athletes may not be aware of how to best do this.

Below are strategies that a coach can implement during practice ("training table") and after practice or games ("recovery table"). Coaches do not have to provide the fluid or food, this could be done by the athletes or their parents however the coach should emphasise the importance of athletes eating properly and being aware of their nutritional needs given their level of exercise.

TRAINING TABLE CHECKLIST

SUPPLIES

- Chilled fluids – especially in hot conditions
- Sports drink or cordial / Kool-Aid may be useful for longer training sessions
- Perhaps carbohydrate rich snacks for pre-game "top up" (e.g. fresh fruit, jam sandwiches, cereal bars)
- Individual drink bottles for hygiene and to allow player to monitor how much fluid has been consumed

BEHAVIOURS

- Incorporate regular drink breaks during practice
- Encourage good hydration practices
- Consider occasional monitoring of hydration success by weighing pre- and post-training (1kg chance = 1 litre fluid) or checking use of drink bottles

RECOVERY TABLE CHECKLIST

SUPPLIES

- Chilled fluids
- Easy to eat snack options that provide both carbohydrates and protein (e.g. chicken and salad sandwiches, fruit and yoghurt, flavoured milk, breakfast cereal and milk

BEHAVIOURS

- Support healthy choices at canteens and shops at basketball arenas
- Encourage well-chosen eating by team members
- Provide resources (e.g. fridge or kitchen area) where players can store / prepare their own snacks

3.2.4 DEALING WITH ISSUES OF PHYSIQUE

In many sports, including basketball, aspects of player physique (height, weight, lean mass and body fat levels) can influence performance. One of the goals of an athlete's training programme and diet is to gradually achieve the physique that will optimise their performance. This is, however, a long-term goal that is achieved over many years of maturation and conditioning.

Adolescence is a time of growth and change in body composition which includes a differential increase in muscle mass in males and fat mass in females. It is also a time of social and emotional change which can see the player develop body image concerns that are unrelated to their sporting activities, and particularly in the case of females, may cause unhelpful "dieting" behaviours.

It is important to support young players during this period so that they can take ownership of sound eating practices that will support their athletic goals as well as long-term health. In some cases, players will need to engage special strategies to assist with increasing energy intake to support growth, or to reduce unnecessary energy intake to assist with sensible weight control or to adjust to a period of reduced training (e.g. injury or a break).

STRATEGIES TO SUPPORT HEALTHY ATTITUDES TO PHYSIQUE

- Encourage athletes to feel comfortable about their physical changes during adolescence
- Avoid or prevent practices that place unnecessary focus on normal physical changes, particularly when it is unconnected to performance (e.g. recording player weights in a punitive way)
- Be sensitive to situations where players may feel uncomfortable in minimal/ tight clothing (e.g. wearing lycra suits or playing "skins/shirts" drill).
- Be aware of problems of restrictive dieting or unhealthy fat gain and assist the player to seek professional help at an early stage

EATING STRATEGIES TO ASSIST WITH A HIGH ENERGY INTAKE	EATING STRATEGIES TO ASSIST WITH A REDUCED ENERGY INTAKE
• Plan a series of wholesome meals and snacks over the day to allow regular intake of energy and protein - don't mistake the need for extra energy as permission to overeat "junk foods" • Be organised to have portable snacks and meals that can travel in a busy lifestyle • Make the most of compact nutrient-packed drinks that are simple to consume: fruit smoothies, milkshakes, juice, liquid meals • Don't overdo high fibre or bulky food choices – when appetite or stomach space seems limited, let vegetables, salads and wholegrain choices accompany the meal rather than cause over-filling • Keep a record every once in a while to see how well the eating plan is being achieved or to identify times where meals/snacks are skipped	• Plan a series of filling meals and snacks over the day to allow regular intake of energy and protein and to avoid hunger or fatigue spots • Don't skip meals or over-restrict intake - hunger is likely to lead to over-eating • Minimise the intake of energy-containing drinks so that most of the day's energy intake needs to be chewed and consumed more slowly • Make meals and snacks filling by adding plenty of fresh salads and vegetables or watery fruits (e.g. berries and melons), and by choosing wholegrain forms of cereal foods. Note that protein added to these eating occasions also helps to make the meal more satisfying • Keep a record every once in a while to see how well the eating plan is being achieved or to identify times where problem behaviours are occurring (e.g. boredom eating, overeating)

3.2.5 OPTIMISING GAME PERFORMANCE

Competition nutrition involves an understanding of the factors that can cause fatigue and loss of performance over the course of a basketball game.

Dehydration and fuel depletion are potential factors of reduced performance, and even if these do not occur over the course of a single game, they may accumulate over a road trip or tournament scenario where the player has not achieved full recovery from one match before the next tip-off.

Eating strategies before, during and after/between games should try to address the potential causes of fatigue, reducing their impact or delaying their onset.

PRE-GAME MEAL

A carbohydrate-rich meal is encouraged for the pre-game menu, particularly to allow players who have lots of court time to top up muscle stores of this important fuel. It is generally recommended to consume this meal 2-4 hours before the start of the game, from a selection of foods that are familiar and known to be well tolerated.

Foods that are hard to digest or likely to cause gut distress (e.g. rich or spicy foods, foods high in fats or fibre) should be avoided. Typical choices according to the time of day are suggested in the checklist but can be altered according to the preference and experience of each player.

Some players also like to consume a light snack even closer to game time, and fluids consumed during this period can ensure that good hydration levels are achieved for the game. Scenarios which provide the opportunity for a team pre-game meal can be used to ensure that all players achieve their nutrition goals as well as to commence other aspects of match preparation.

Examples of pre-game meal options (eaten 2-4 hours prior)

- Crumpets/crumpets with honey
- Cereal with low fat milk
- Pasta with light sauces
- Fruit yoghurt with untoasted muesli
- Baked potato or starchy vegetables with accompaniments
- Bread rolls/sandwiches with meat and salad fillings

FUEL AND FLUID DURING THE GAME

Actual fuel and fluid needs during a game will be individual to the player, their game patterns and court-time. The fast paced nature of the game and enclosed court environments often mean high sweat rates for active players.

However, there are usually opportunities during time-outs, breaks on the bench or time between halves/quarters to regularly replace fluid losses. As at practices, individual drink bottles should be kept courtside to provide players with ready access to fluids and an opportunity to gauge how much they have consumed.

Even when it is not necessary to consume additional carbohydrate as a muscle fuel during the game, there is emerging evidence that regular intake of carbohydrates during shorter/high intensity sports stimulates the brain to feel energised. Although research hasn't investigated the performance benefits of this tactic in a basketball scenario, it could help to sustain running and concentration over the duration of the game. This can be achieved by the choice of sports drink or cordial/Kool-Aid as the game fluid.

POST-GAME RECOVERY

Optimal nutritional recovery involves the same processes as described in the section on training nutrition. These strategies may become particularly important during a tournament or a road trip when several games are to be played over a day or two.

Recovery snacks or a meal should be organised so that they can be eaten soon after the game according to practical issues such as travel times to the home base or team accommodation, and facilities at the game arena. This also often provides an opportunity for team eating to promote camaraderie or game analysis.

EXAMPLES OF RECOVERY SNACKS	EXAMPLES OF RECOVERY MEALS
• Fruit yoghurt and cereal bars • Ham and cheese toasted sandwich • Low fat flavoured milk • Chicken and salad wraps	• Pasta meal • Healthy pizzas with meats and vegetable toppings • Rice based meals – e.g. risotto • Mexican burritos with meats/beans and salad

EATING "ON THE ROAD" - COPING WITH TRAVEL

Travelling to games and tournaments calls for special eating skills. The challenges include disruption to normal eating routines, limited access to familiar foods, unpractised exposure to group eating and less suitable food choices, and the loss of normal supervision around eating.

It is also important to consider food/water safety and the risk of getting sick on the road. The principles of travel nutrition start with preparation before the trip to plan and organise a suitable meal schedule and may include bringing supplies of important foods on the trip to supplement local fare.

Achieving an eating plan that meets nutrition goals instead of haphazard intake requires input at the team level as well as individual responsibility (see checklist).

SPECIAL STRATEGIES FOR COACHES

- Plan for travel - try to find out what food is likely to be available, location of shops etc
- Educate players on food safety and good hygiene practices prior to departure
- Encourage athletes to plan snacks in advance to reduce the need to rely on roadside / airport stops
- Encourage optimal hydration by providing players with individual travel drink bottles
- Provide distraction and other activities to help reduce boredom eating
- Schedule regular meal and snack breaks around flights / road trips to limit disruption to eating patterns

3.2.6 BASIC SPORT FOODS AND SUPPLEMENTS

The sports world is filled with specialised foods and supplements that promise a winning outcome. Only a few of these supplements are supported by scientific evidence to meet their claims and it is beyond the scope of this section to discuss them further.

Indeed, best practice guidelines generally discourage the use of such ergogenic supplements by individuals under the age of 18 years. Although many sports foods are tailor-made to assist an athlete to meet nutritional goals around exercise, the cost of these products needs to be considered against the practicality they offer.

Further information on supplements and sports foods can be found at www.ausport/ais/nutrition/supplements or by consultation with an accredited sports nutrition expert.

ADDITIONAL RESOURCES

Additional facts on sports nutrition can be found at:

- Australian Institute of Sport, Sports Nutrition www.ausport.gov.au/nutrition
- Sports Dietitians Australia www.sportsdietitians.com.au
- "The Complete guide to food for sports performance" 3rd edition, Louise Burke and Greg Cox, Allen and Unwin, Sydney Australia, 2010

3.3 PHYSICAL RECOVERY

3.3.1 PHYSICAL RECOVERY TECHNIQUES - OVERVIEW

This chapter contains general information, and individuals should not rely upon this information without seeking further advice from appropriately qualified individuals.

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Professionalism in sport has provided the foundation for elite athletes to focus purely on training and competition. Athletes and coaches continually seek to improve performance, and optimal recovery from training and performance provides numerous benefits during repetitive high-level training and competition.

WHAT IS RECOVERY?

"Recovery" is a word commonly used in sport but is not necessarily well understood.

"Recovery" is the restoration of physiological and psychological processes, so that the athlete can compete or train again at an appropriate level. Recovery is complex and involves numerous factors. Coaches of junior athletes do not need to be experts in recovery but do need to have an understanding of the factors that can affect performance and the techniques that can help athletes to recover.

FACTORS AFFECTING ATHLETIC PERFORMANCE

There are many factors that can affect an athlete's performance, such as:

TRAINING/COMPETITION	Volume, intensity, duration, type of training, degree of fatigue, recovery from previous training/competition
NUTRITION	Carbohydrate, protein and other nutrient intake, fluid and electrolyte balance
PSYCHOLOGICAL STRESS	Stress from competition, home-sickness, anxiety
LIFESTYLE	Quality and amount of sleep, schedule, housing situation, leisure/social activities, relationship with team members, coach, friends and family, job or schooling situation
HEALTH	Illnesses, infection, fever, injury, muscle soreness and damage
ENVIRONMENT	Temperature, humidity, altitude