

# How to train — like a Laker



Train like a pro

Paul Read Lecturer in Strength and Conditioning, Gloucester University, UK

*The feats of players such as basketball legend Kobe Bryant are undoubtedly impressive; none more so than an emphatic slam dunk with your team mates as the opposition look on in awe! They also seem to tirelessly back-track, man-mark and change direction in a flash. So the question is, How do they stay ahead of the game? What's needed to develop the physical qualities to push your playing to the next level? Let's find out ...*

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## Ringin' the changes

According to research, players change from one movement to another every 2 seconds [1], clearly demonstrating the need for high levels of agility. In addition, high-intensity movements (sprinting, jumping, etc) are performed on average every 21 seconds during actual play, with only 5% of sprints lasting more than 4 seconds [2].

## 2. Agility

Agility is defined as 'the ability to change direction rapidly without losing balance, using a combination of strength, power and co-ordination'. More recently it has been suggested that agility is further enhanced by perception and decision-making skills.

- The strategy: Agility training should therefore progress from developing optimal movement skill in a closed environment free of external stimulus, to developing sport-specific agility in a more open environment. For a suggested progression of drills, see Table 1.

Total distances covered of 7,558 metres have been reported during games, with up to 22% involving sideways movement [3]. Although distance covered is important, it is the amount of high-intensity work that differentiates between good and bad performance. As such, basketball should be considered a game of repeated high-intensity activities interspersed with periods of low-intensity recovery. This has important implications for training, where the emphasis should be placed upon developing strength, power, speed and agility.

## Getting the edge

The relationship between athleticism and playing time has been measured. While players in the same position may share similar playing skills, it was those who displayed the greatest athletic ability (based on fitness testing results) that accumulated more playing time [4]. Below are some of the key components of successful basketball players, i.e., the qualities that differentiate between good and excellent performance.

### 1. Strength and power

High levels of strength will reduce injury risk and allow players to perform more powerful rebounds, including an enhancement to jumping height (Figure 1). Vertical jump scores in elite players range from 60–70cm and are significantly higher than average players. Interestingly, the ability to squat heavy correlates with increases in vertical jump height and sprinting speed, both fundamental abilities in basketball; it is also a good predictor of playing time [5].

- **The strategy:** As well as squatting (Figure 2), weightlifting movements (Clean, Snatch and their derivatives) and plyometrics should be included as they have been used effectively to enhance jump and sprint performance.



**Figure 1:** The Guildford Heat in action. Key game demands for basketball are: repeated and sudden sprints, jumps of 60–70cm and sideways movement/direction changes.



For increases in vertical jump, aim to perform the following:

Sets	Reps	Rest	Temp	Load
3-6	3-6	120-180s	4-0-X-)*	80-100% 1RM

\*Take 4s to lower into the squat position, no pause at the bottom, and drive up out of the squat as explosively as possible with no rest in between reps.

**Figure 2:** The bottom of a squat.

**Training focus**

**Example drills**

Movement mechanics (Closed drills)	Forwards, sideways, backward movements
Pattern running (Closed drills)	As above but combining movements together, eg, sprint forwards 5 yards, side-shuffle 5 yards and then turn and sprint 5 yards
Reactive agility (Open drills)	Mirror games with a partner (eg, follow the leader and tag)

**Follow-the-leader training suggestion:**

Sets	Reps	Work-to-rest ratio	Rest between sets	Tempo / Speed
3-5	3-5 (4s work bouts)	1:5/6	180s	Max

**Table 1:** Suggested progression for agility training [6]

### 3. Energy systems

Many questions have been raised in an attempt to classify basketball as an aerobic (requiring a good cardiovascular system) or anaerobic sport (requiring a good neuromuscular system). The majority of the research suggests a reliance on the anaerobic system, with the aerobic system a secondary energy source. As such, average VO2 max values (maximal oxygen uptake) for elite players display lower results than those of endurance athletes. Additionally, it has been shown that long slow continuous running leads to reductions in performance in explosive sports, particularly strength and power [7].

- **The strategy:** Thus the training approach here should focus on developing sprinting abilities and the use of high-intensity interval approaches such as Tabatta protocols (20s work with 10s active recovery – **Table 2**). However, based on the data above, work-to-rest ratios may need to be reversed.

**Work-to-rest ration**

**Total workout duration**

**Sample exercises**

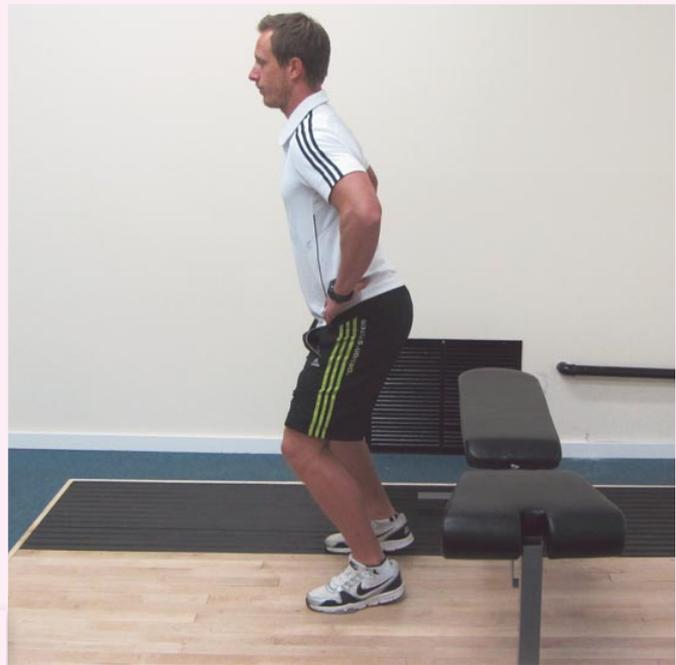
5s work: 20s active recovery	Repeat designated work-to-rest ratio for 4 minutes	Change-of-direction sprints Kettle-bell swings Lateral shuffles
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**Table 2:** Tabatta protocol suggestions

### 4. Injuries

In the NBA the overall game injury rate has been reported as 19.3 per 1000 athlete exposures, with ankle ligament sprains occurring most frequently (26%). Typical causes of injury include landing inappropriately followed by rapid deceleration.

- **The strategy:** To best head off these potential problems, exercises such as box jumps and drop lands focusing on appropriate landing technique should be included to reduce injury risk (**Figure 3**).



**Left to right:** start position; side view of landing; landing front view. Aim to perform 3–5 sets of 3–5 reps.

**Technique:** land on forefoot maintaining a slight gap underneath your heels (credit-card swipe) with shoulders over knees in line with toes.

**Figure 3:** Drop lands

### Aim high!

Following these simple steps will undoubtedly enhance your ability, and that of your team, to jump higher, sprint faster and take your game to the next level.

**Remember** ... focus training for strength, power and speed in a multi-directional environment and just see what you can achieve!

### References

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### Correspondence:

**Please contact Paul with your comments and queries.**

**Email:** paul@bodyinaction.co.uk

## COACHES' CORNER

*Guildford Heat Strength and Conditioning Coach, **Shyam Chavada**, has his say:*

▶ **Favourite exercise(s):**

Olympic lifts – The Snatch and Clean & Jerk are great exercises to develop power and co-ordination.

▶ **Biggest training mistake:**

Not fuelling the machine! With hard hours put in on and off the court, players must fuel their bodies correctly. When training several times a day, optimal nutrition is essential – pre, during and post workout – to replenish energy stores and maximise outcome.

▶ **Top training tip:**

Recover! Playing several games a week, sometimes back to back, at high levels of intensity, players must use recovery strategies. Foam-roll on a daily basis, do pool recovery sessions and use compression garments.