Lack of speed

Volleyball – setting

**C1- Speed when moving to the ball.**

In a game of volleyball we all have specific roles on court, I normally play outside hitter. This means I need to cover position four and five depending whether I am back court or front at the given time. However, sometimes we have to play out of our comfort zone and therefore as a whole my setting is a main weakness in my game. When setting the ball the reason for this is my lack of speed when moving to the ball. As a result of this it leads to poor body position as I have run out of time making my job harder to carry out the spike. I find that I have to reach forward in an awkward body position rather than having a strong and balanced body position under the ball. This puts me at a disadvantage and because of this my set may be off target and not high enough making my team mate (at position four) work harder for the ball as she would have to reach and push it over instead of being able to spike it.

The definition of speed is the ‘ability to move quickly across the ground or move limbs rapidly to grab or throw.’ Speed is not just how fast you can run, but is dependent on your acceleration (how quickly we can accelerate from a stationary position), maximal speed of movement, and also speed maintenance (minimizing deceleration). Movement speed requires good strength and power, but also too much body-weight and air resistance can act to slow us down. In addition to a high proportion of fast twitch muscle fibers, it is vital to have efficient mechanics of movement to optimize the muscle power for the most economical movement technique. Fast-twitch fibres have relatively poor aerobic endurance. They are better suited for anaerobic activity, as they produce ATP primarily from anaerobic energy pathways. Fast- twitch muscle fibres are well adapted to short, intense bursts of effort. They have a larger diameter than slow-twitch fibres because there are more myosin filaments in them. The myosin is thicker than the type found in slow-twitch fibres and therefore the fast-twitch fibres are able to produce more force than slow twitch fibres. This greater speed of contraction in fast-twitch fibres is helped by having a more complex arrangement of sarcoplasmic reticulum which means that calcium ions can be released and returned to storage more quickly than in slow-twitch fibres. Calcium ions are essential as they allow the myosin to bind to the actin filaments. The filaments are made up of the protein actin along with small amounts of troponin (globular protein) and tropomyosin (thread-like protein, which winds around the surface of the actin). Fast-twitch fibres also possess a different type of myosin- ATPase to slow-twitch fibres that releases energy from ATP quicker than the type found in slow-twitch fibres. When it comes to improving my speed I won’t be able to change the percentage of fast twitch fibres but I can try and improve the performance of them with training. Overall this will improve the performance of my setting as I will be able to get to the ball quicker and therefore my body position will be correct. This means that I will be able to carry out a successful set and aid my team to gain an advantage.

**C2- Improving Speed – Intermittent Training**

Even though it has been proven that our Fast-twitch fibres are genetically determined and we can’t change the amount we have of them research into it has shown that specific types of characteristic of the fibres can be changed by training. Therefore I believe to help improve my component of fitness: speed, I will need to carry out intermittent training. Intermittent training involves alternating periods of effort and recovery so that the body is exposed to a greater total workload than it could normally manage during a continuous period of training. Interval training is the name given to intermittent training that is characterised by having periods of intense exercise followed by periods with only a low level of energy expenditure (rest). Interval training is predominantly an anaerobic programme. Interval training bases the training on: intensity of exercise, duration of the exercise, length of recovery and number of repetitions of the exercise- recovery interval. A greater number of intense exercises can be achieved by dividing the session up into blocks of work called sets of work and rest, which in turn have longer rest interval between them.

Interval training relates to volleyball as just like interval training, volleyball has periods of intense work followed by rest. The periods of intense work would be sprinting across court so I can receive the second ball to wherever it is being played to, followed by being on my toes and deciding where to set the ball, back court or front cout. However, in this case it would be for setting the ball to position four and therefore the speed at which I get to the ball will determine the strength of the set as I will be underneath the ball and ready to deliver an outside loopy ball.

Interval running will enable me to improve the workload by interspersing heavy bouts of fast running with recovery periods of slower jogging. My training programme will start of reasonably easy and then as time progresses I will continue to build it up. I will do track running and firstly I will run hard (sprint) for thirty seconds and then I will have a period of easy jogging (recovery) for two and a half. I will repeat this four times. As this becomes easier I will increase the amount of repetition up to 5, 6, 7 etc and also increase the time of the sprinting session (up in seconds (5)).

When I have finished the training programme I would hope to have improved and cause an increase in the responsiveness of my muscles fibres enabling faster reactions. Another aspect which will improve as a result of this training programme will be the thickness of my myosin will increase making them stronger. Also when exercising type IIb fibres will be converted into type IIa this is important because type 11a is what deals with strength and speed exercises.

Improving my component of fitness; speed, will have many positive effects on my set. As I will be able to quickly get to the ball and set myself up, which means I will have a better chance at being able to push the ball outside if we are attacking through fourth. It will also give me longer to assess where I think it is best to play it to in order for our next attacking move to be successful.