



## **Badminton: Fitness and Training**

### *Resistance training*

#### **Andy Allford:**

My philosophy for strength and conditioning is making sure I have four components I need to be aware of. The first thing we always need to get right is making sure that everything that we do doesn't have a negative impact on their health...so if they've been suffering from colds, flu, lots of illnesses, then we need to address that first. The next stage on, making sure that we get a good injury prevention program in place .... if they're injured, they can't play the sport, they can't improve. The next one is laying down foundations of base fitness - so making sure that they're strong, stable, athletes, making sure they've got good metabolic conditioning before we start some of the fancy work. They're the things that really make a big difference to the actual performance on a badminton court. It's important that everything that you do you're sticking to... those four elements and make sure that you're aware of them as you progress through those issues and what training you're going to prescribe to an athlete.

Resistance training is the term used for the training practices involved using an external load to produce an adaptation in the muscular system. This isn't synonymous with just weight training in using additional weight this can also be used in terms of water resistance, body weight resistance, and also uses of things like elastic bands and stretchy cords.

Resistance training is really important for our badminton players, the demands of badminton are really harsh on the body it's a very dynamic sport there's lots of forces going through your body all the time through the acceleration and deceleration aspect so it's really important that

- 1 you use resistance training to help protect against those forces so to keep you injury free.
- 2 we put down a layer of resistance training as a sort of base fitness to be able to move then on to high end resistance training to produce performance enhancing effects as well.

So our guys actually do resistance training 3 times a week as a substitute to badminton and we feel it's that important to keep them healthy and injury free but to also add additional performance effects to their badminton and their in court performance.

The exercises that we select will again be based on what an individual need is so the way we would start off with the programme would be select core exercises which will be done first so they will probably be the one ones that involve bigger musculature and do bigger things so such as an Olympic lift or a squat or a leg press.

Dependant of what the player is trying to achieve will depend on what exercise we select and what the goals are but that will tend to be so that they're the freshest in the session and so they tend to come first. The exercises will come round in terms of what they need to do to improve their core exercises or some additional exercises they may need in terms of what they're screening and their fitness testing has flagged up in terms of stability issues, injury prevention type stuff as well.

The order of exercises is decided basically on what's the most important for that individual, so if someone needed more leg strength then that would be the first exercise that we'd put in either a squat or a leg press or if they were after more power then possibly we would use an Olympic lifting type exercise as well.

The rep ranges we use are typically anywhere between 3-6 reps, especially for power we'll keep that quite low, really good quality, high intensity. Same thing for strength if it's maximum strength quality we're after the rep range will be quite low, they will differ for different muscle groups depending on what you're trying to achieve. So for the calf's, more of an endurance muscle we'll look for higher end reps maybe more strength endurance type work anywhere between 15 to 30 reps. Again, exercises for the abdominals we will probably do higher reps

as well but again it depends on whether we do stability exercises around your abdominals or whether we're working for power production and using med-balls again the rep range will be slightly lower because we're trying to use high forces and real high quality.

Core stability is really important to badminton players but it really depends on the definition you use, so typically when we're looking at stability of our badminton players it's really around anywhere from the knee up to kind of the nipples down. If through our screening process we identify a particular weakness in your abdominals, back extensions, anything along those lines then we might use additional isolation type core exercises to actually improve that type of area. We'd also use core exercise if you use it in a broader sense to actually improve the abdominals in terms of power production and strength for shot force and production as well, so extra power within those shots, such as the overhead smash. When our players are in a deep lunge position we want them to try and hold their posture nice and upright, it's not always possible, sometimes they'll be a little bit late for a shot and be very deep however most of the time we want them to be nice and upright so they can take the shot early, play a nice upright shot, and their not using there back extensions to try and push back they're actually driving from the legs which is a lot more economical. That's perfect world and a lot of the time they'll actually have to be in these unsafe positions in terms of deep lunge and going into forward flexion.