

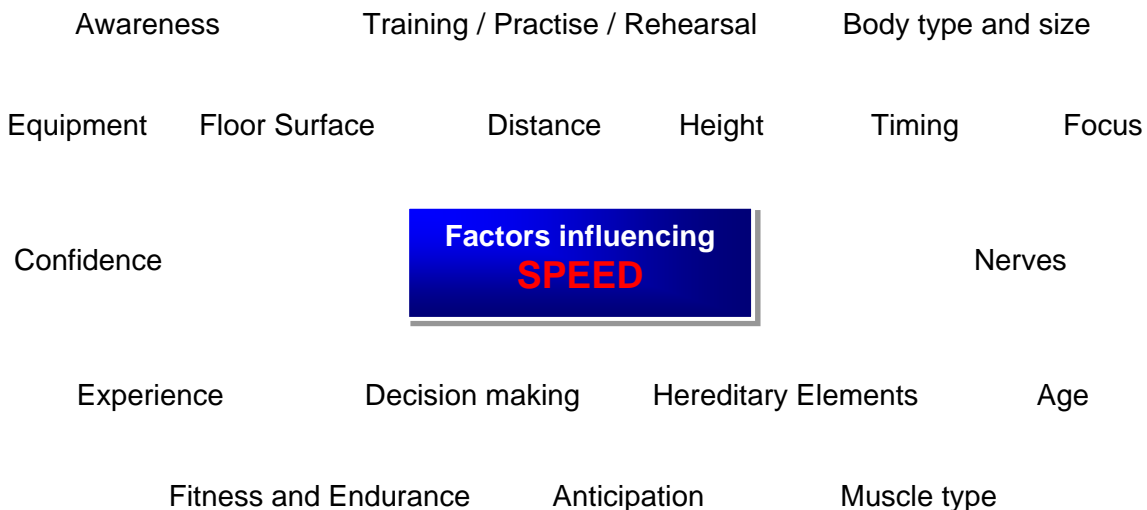
*TECHNICAL COLUMN*  
**SPEED TRAINING**  
*Article by John Swift*



In a previous article based on flexibility I discussed the various fitness and conditioning components of the martial arts, the component I have chosen to discuss in this article is that of **'SPEED'**

As a general guide, speed is 'the ability to put body parts into motion quickly, or the maximum rate that a person can move over a specific distance'.

Having said this, speed can be subject to a number of variables and is not always as simple as moving from position 'A' to 'B'. The spider diagram suggests just some of the contributing factors to speed -



There are plenty more factors that can be added to the diagram but if we are to build and develop speed it is important we try and break it down and to understand it. A number of highly esteemed martial artists and theorists have researched 'speed' further and suggest that it can be broken down into several specific stages, up to 7 elements have been suggested but for simplicity I have categorised the following.

## Elements of SPEED ...

**STAGE 1** - Perception – the ability to recognise a given stimulus / that a response is needed

**STAGE 2** - Reaction – the ability to respond or initiate movement to the given stimulus

**STAGE 3** - Execution – the actual completion of the previously initiated movement

**STAGE 4** - Recovery – the return to the start or ready position

Correct coaching and instruction can develop competency and improved performance in all stages, individually or collectively, and there are a variety of drills, methods and techniques that can be used, the most common being resistance training and interval training as well as plyometrics. Plyometrics is one of my preferred methods as it also helps develop strength and power too – more information on plyometrics can be found in my previous article based on jump kicking.

Although resistance training and plyometrics are very efficient methods, they tend to focus on the latter two stages, developing stages 1 and 2 are equally as important and often a little more difficult to build. I use a technique I call 'verbal' and 'visual' with closed skills so as to provide the student the opportunity react and respond to the appropriately given stimulus.

### Verbal or Audio Training

Developing an appropriate response from a given verbal or audio command can aid rapid thought process and decision making, both are elements that can determine perception and reaction speed.

Examples can include numbering pad drills or targets, naming sides (right / left) or even specific combinations.

The photo shows numbered targets on a freestanding bag and the fast execution of a given technique – in this case, a jump back kick.



### Visual Training

This can start as basic as having different coloured striking targets, as the photos suggest. Obviously, through the displaying of a target or stimulus, all 4 stages can be worked, but more emphasis can be made on the early stages if need be.

As a more advanced drill a free spar or 'role-play' type exercise can be used where the instructor moves themselves to a certain position in order to gain a specific response from the student. For example – the instructor lowers the guard or exposes target areas for the student to respond.

Both 'verbal' and 'visual' can be drilled as separate techniques or even combined depending in the level of the student.

Ultimately correct drills and training methods will condition the mind as well as the body in order to produce an appropriate improved response, and of course it makes sense to suggest that the effectiveness and efficiency of the body to deliver speed can be determined by its physical conditioning.

The human body has different systems in order to allow its functional capacity; it is the muscular system along with the skeletal system which allows the provision of movement. The fundamental role of a muscle is to initiate and allow for movement so it is right to suggest that through correct training your muscles can be conditioned to deliver greater speed.

Muscles are made up of thousands and thousands in individual fibres which are held together via connective tissue, however muscle fibres may differ in physiological make up as there are two main fibre types 'slow twitch' and 'fast twitch' (fast twitch can be further divided up into type 2a and type 2b)

Fast twitch fibres are responsible for high level speed as they can contract rapidly and exert greater forces. The only way to develop fast twitch fibres is to put the appropriate constraints on them through correct training methods.

These are just some of the class based drills I use for developing speed –

- **'Pad Whacking Races'** as it is fondly known as within my clubs, this is a drill that can be carried out with a variety of skills to suit specific abilities and of course the desired skill and outcome. It requires 2 or more people, ideally one pad holder and two students as the photo demonstrates. The pad holder will put the pads into an appropriate position and on a verbal command the students should execute the given skill as quickly as possible without jeopardising technique. The winner can be the one that either hits the pads first, therefore working through our stages 1, 2 and 3 or the person that returns to the start position working all 4 stages.
- **'Timed striking'** – this is a basic drill suitable to children or adults and potentially helps develop both speed and muscular endurance. With specified time constraints the student(s) must deliver as many of the same repetitious techniques as possible for example – set a focus pad middle section and executing as many turning kicks as possible in 15 secs



- **Resistance Training** – 'Chariot Racing' is a drill I use partly due to its fun based nature but more importantly due to its benefits in the development of speed. It is a drill which is equally as suitable for adults as it is for children and is being demonstrated in the photo by Lauren Rhodes and Emily Siviter of my Kidderminster club.

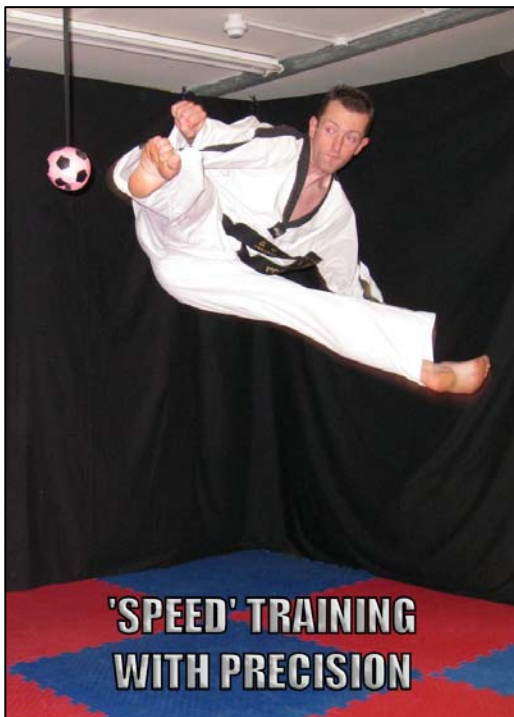
Ankle and wrist weights as well as weighted body vests can also be used for extra resistance training but use caution as it will cause additional strain on muscles and joints.

Through time and rehearsal will come experience and with experience will come knowledge of drills and certain scenarios so perception and anticipate elements should improve. Something that will come with experience and more advanced training will be the utilisation of the timing, faking or feinting drills.

Most people possess a natural rhythm and will often move strike or defend off this rhythm, being able to interrupt your opponents rhythm will off balance them and allow you more time to set your strike or counter. This is what is suggested by many as '**perceived speed**' as you are not actually moving any quicker but using timing and setting concepts so as to appear like you are.

For example – 'Half-beat' drills, a sport martial arts student can include a natural rhythm of bouncing up and down or backwards or forwards, it can be adjusted and varied, so that the shortening of the movement up / down or backwards / forwards can reduce time and throw your opponent out of sync and off balance and therefore increasing the time you have to deliver your technique.

It is also often referred to as 'setting' as you aim to put your opponent into a predetermined response stage and set up for your own strike, as a basic example in boxing a feint jab to the head should encourage your opponent to raise their guard enabling a strike in the mid-section.



### Factors to Remember ...

- Correct technique will allow for more efficient movement and greater speed
  - Drill speed with precision, as a fast technique is no good unless you have control over where it is being placed! The photo shows the explosive speed and power required in a jumping kick.
  - If analysing speed whilst in a combination ensure the techniques flow into one and other, for example a turning kick, spinning hook kick has more natural fluidity than a twisting kick, back kick combination.
  - Ensure maximal work rate when drilling. For your top level of speed to be beaten you need to push yourself to this limit and try and better it!
  - With maximal speed comes increased risk of injury due to the intensity place on muscles and joint so always ensure proper warm up and warm down.
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- Test your speed and precision, personally I like to do this through sparring, whether it be points, light continuous or full contact as the precise execution and delivery of a technique is put into play against a moving partner rather than pad or bag. Obviously, none sport based skills can be tested by delivering a safe and controlled self-defence scenario or engagement.

If you would like further information John has Taekwondo and Kickboxing schools in the Worcestershire and Bromsgrove District areas as well as affiliated clubs all over the UK, feel free to contact him via email on [info@vervemartialarts.co.uk](mailto:info@vervemartialarts.co.uk) or telephone 01562 827437. Alternatively visit his website at [www.vervemartialarts.co.uk](http://www.vervemartialarts.co.uk).