

Improvement of Speed through the use of different weighted Implements

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Certainly we are able to develop the quality of strength in our athletes to a satisfactory degree, but speaking of speed, the question is much more complex and not yet completely understood. Sprinting is a means of general speed in hammer throwers and represents the principle means for the improvement of special speed in sprinters. So sprinting is not restricted to sprinters, but also utilised by throwers.

Somebody affirms that it is necessary to start from general speed before passing to special speed; there are more athletes who reach high levels of speed either in running or turning (Sedykh, Tamm, Nikulin, Litvinov) but they are rare; some other athletes are very fast in running but turn relatively slow and others who don't run fast, but spin very fast.

Methods for the improvement of general speed

For the development of general speed, the most suitable means is represented by sprinting over distances from 20 to 100 metres. Other effective drills are: multiple jumps, some sporting games like volleyball and throwing events (shot – discus – javelin).

Sound methods for the improvement of general speed, applicable to these drills are:

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| • The method of maximal efforts (90 -100%) | 1 to 3 repetitions |
| • The method of repeated efforts (80 -90%) | 3 to 6 repetitions |
| • The method of repeated efforts (20 -80%) | 6 to 20 repetitions |

Methods for the improvement of special speed

- Throw with implements of different weight and length
- Specific exercises with the barbell, quickly performed
- Specific strength exercises, for the most important (accelerative) muscular groups

METHODS FOR TOP ELITE ATHLETES

- Throwing light implements
- Throwing light – standard – heavy implements

One of the methods aimed to improve special speed, is the so called “throwing for the maximum distance possible” (85 -90 metres, light hammers) However sometimes the light implement has no positive effect on the standard, it is difficult to ascertain what is the best method. Each athlete, during his evolution (5 -10 years) uses all methods.

Variants in using the light/standard/heavy hammers

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| 1) | Use in determinate months: | Heavy (10-12kg)
Light (6kg)
Standard (7.26kg) | November-December
April- May
February-June-July-August |
| 2) | Use in determinate weeks: | 1 st week
2 nd week
3 rd week
4 th week
5 th week
6 th week | Light
Standard
Heavy
Light
Standard
Heavy |

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|----|---------------------------------|-------------------------------|----------------------------|
| 3) | Use in determinate single days: | Monday
Wednesday
Friday | Light
Standard
Heavy |
|----|---------------------------------|-------------------------------|----------------------------|
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| 4) | The 3 implements in the same session: |
| a. | heavy + standard + light |
| b. | 10 light + 10 standard + 10 heavy |
| c. | light + standard x20 throws + 10-20 heavy |
| d. | light + standard + heavy and repeat |
| e. | 5 heavy + 1 standard |
| f. | 10 light + 1 standard |

All the methods we have presented here are effective, but we still don't know what is the best.

The use of implements of different weight has (and must have) an effect on the improvement on performances with the standard hammer. It sounds like a paradox, but some times it happens that light and heavy implements improve and standard doesn't, or standard gets better but light and heavy don't improve.

There should be definite laws that, at present, we are not able to govern. Not every athlete can use the method light+standard+heavy or light+heavy or standard+light, but they often better tolerate the method standard+heavy. For example, Sedykh and Nikulin have no problems in throwing different implements, while on the contrary, Litvinov and Tamm have some troubles.

In the Soviet Union, since we don't know what is the most effective variant, we use every method one after the other.

The use of different implements also has a didactical importance, since for the development of technique it is necessary to throw different hammers: it is not possible to see young athletes who throw the 5kg hammer well and the 7kg wrongly.

The choice of the implements to be used is absolutely an individual factor that also depends on the learning capacity: Sedykh learned the basic technique in three months, while Tamm took five years!

The work with maximal intensity has a particular meaning for the improvement of general and special speed, however the volume is restricted to 15 -20% (in general speed).