

A stylized, light red silhouette of a hammer thrower in mid-throw, positioned behind the main title. The figure is composed of simple geometric shapes: a circle for the head, a horizontal line for the arms holding the hammer, and a diagonal line for the legs. The hammer is represented by a horizontal line ending in a circle.

SIMPLIFYING THE SOVIETS

SOVIET TRAINING PRINCIPLES AND TRAINING METHODS
IN THE HAMMER THROW

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» Introduction



INTRODUCTION

What is the soviet secret?

There is no secret. Soviet training has been written about extensively. Yet people continue to ignore it for a variety of reasons:

- It can't be that simple.
- It must have been the steroids.
- Resistance to change.



INTRODUCTION

So what led to the Soviet success?

...common sense.

What do distance runners need to do to run faster? Run!

What do throwers need to do to throw further? Throw!



INTRODUCTION

So what led to the Soviet success?

...common sense.

Focus training on what will help you throw far.

Throwing far = greater ball speed.

Therefore, for everything you need to do, ask “what will help the ball go faster?”



INTRODUCTION

Five Principles of Soviet Training

- Science is your friend
 - Determine what works and what doesn't
- Focus on technique
 - Develop technique to accelerate the ball
- Choose exercises wisely
 - Develop the body to accelerate the ball
- Pay attention to individuality
 - Tailor the program to the individual
- Understand the role of change and regularity
 - Periodization



1st PRINCIPLE

» Science is your
friend



SCIENCE

- Every training plan needs a theoretical foundation.
- Experience and the trial and error method both play a role, but science can narrow down the options in planning a training session and set the proper goals for technique. You cannot ignore the scientific principles of biomechanics, physics, biology, etc.
- Science requires data. Record training results to acquire your own data.



2nd PRINCIPLE

» Focus on technique



TECHNIQUE

Don't get so wrapped up in training methods that you forget what is the most important: **technique**.

Many people forget that the Soviets not only trained differently, they had better technique. Technique now often worse than it was 30 years ago; Sedykh and Litvinov remain models for technique.



3rd PRINCIPLE

» Choose Exercises
wisely



LIMITED TIME AND ENERGY

Time and energy are finite resources. Athletes cannot do everything. Therefore you must prioritize choose the best exercises to work with.

This is like an investment: you must choose the exercises that have the **highest return on investment.**



PRIORITIES

What are the most important elements of training for throwers?

Strength?

Power?

Throwing?

Technique? Drills?

Sprinting? Jumping? Plyometrics?

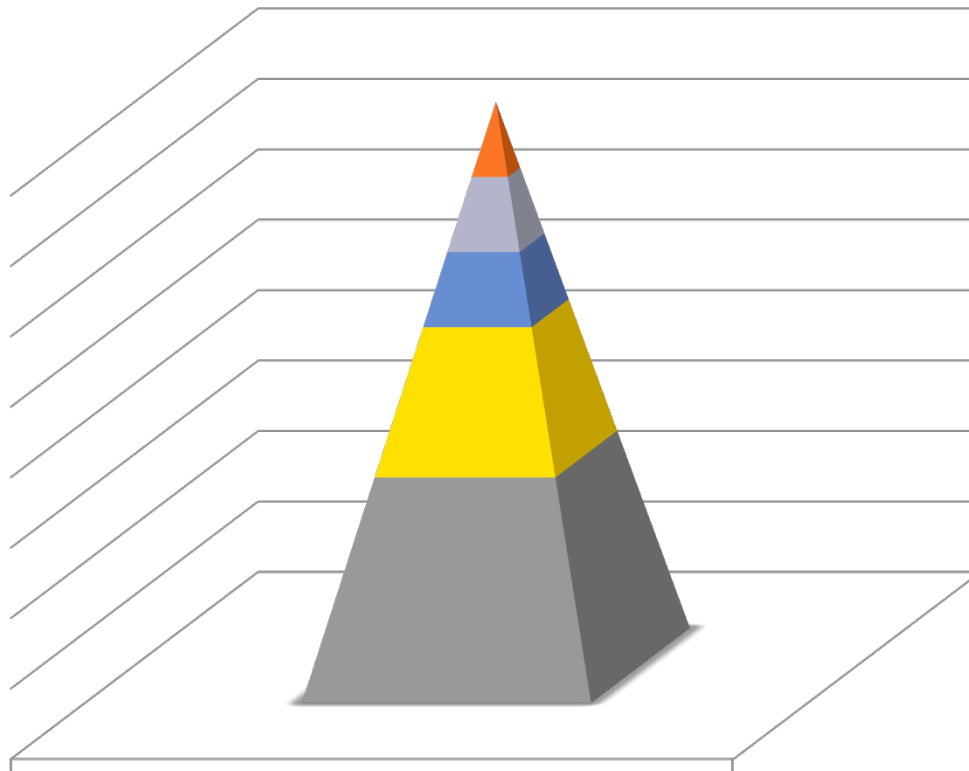
Specific Development Exercises (Special Strength)?

Other Exercises?



PRIORITIES

Typical priorities For American hammer throwers:



- Other
- "Special" Strength
- Sprints and Jumps
- Technique and Drills
- "General" Strength

PRIORITIES

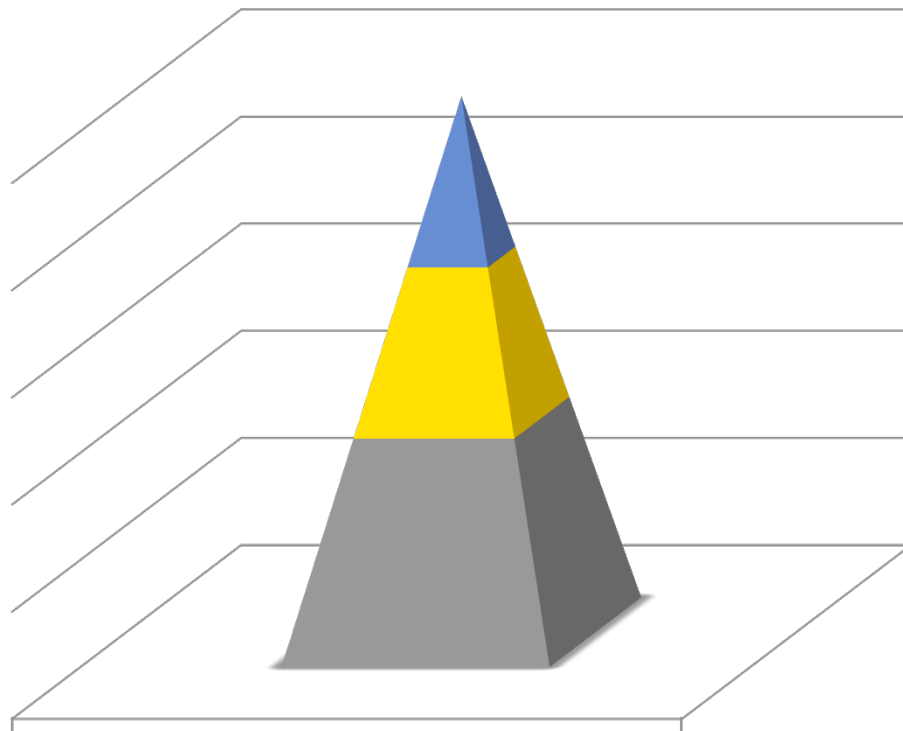
Soviet training focuses on the exercises that have the highest correlation to competition results in the hammer.

Because of limited time, they choose the most effective exercises: throwing takes the majority of time and general strength plays a smaller role.



PRIORITIES

Typical training priorities in Soviet-style training plan:



- "General" strength
- "Special" Strength
- Technique and Throws

EXERCISE CLASSIFICATION

- **General Preparatory Exercises (GPE/Base)** - The movement does not resemble the hammer either mechanically (in whole or in part) or physiologically. These exercises develop general physical qualities and coordination.
- **Specific Preparatory Exercises (SPE/General Strength)** - Like GPE, these exercises do not resemble the hammer. However, similar muscle groups take part in their performance.
- **Specific Development Exercises (SDE/Special Strength):** These resemble the hammer in part. The same muscle groups or their significant parts are used, and similar body systems are activated.
- **Competitive Exercise (CE)**



GE AND SPE EXERCISES

Exercises	Result, correlation coefficient						
	45— 50 M	50— 55 M	55— 60 M	60— 65 M	65— 70 M	70— 75 M	75— 80 M
Hammer 5 kg	0.867	0.785	0.789	0.824	0.542	0.645	0.564
Hammer 6 kg	0.812	0.868	0.875	0.786	0.766	0.790	0.684
Hammer 8 kg	0.684	0.521	0.689	0.859	0.805	0.842	0.798
Hammer 9kg	—	—	—	0.675	0.589	0.745	0.765
Hammer 10 kg	—	—	—	0.542	0.745	0.801	0.824
Hammer 16 kg (short)	—	—	—	0.452	0.588	0.677	0.609
Snatch	0.560	0.467	0.559	0.451	0.245	0.198	0.245
Clean	0.490	0.542	0.457	0.421	0.366	0.214	0.270
Squat	0.620	0.546	0.524	0.437	0.225	0.141	0.196
Long jump	0.425	0.507	0.433	0.397	0.258	-0.214	0.127
Triple jump	0.396	0.452	0.405	0.366	-0.266	-0.165	0.098
Up jump	0.425	0.390	0.422	0.360	-0.247	-0.200	0.124
Shot put forwards	0.465	0.424	0.398	0.245	0.167	-0.178	-0.168
Shot put backwards	0.540	0.425	0.476	-0.378	0.298	-0.245	0.256
30 m b/s	-0.178	0.387	0.330	-0.242	-0.197	-0.227	0.226

GE AND SPE EXERCISES

Exercises	Sports results, coefficients correlations					
	45-50m	50-55m	55-60m	60-65m	65-70m	70-75m
Hammer 3 kg	0.876	0.788	0.724	0.710	0.690	0.650
Hammer 5 kg	0.742	0.712	0.825	0.860	0.880	0.920
Hammer 6 kg	0.654	0.698	0.876	0.820	0.900	0.950
Hammer 7.260 kg	-	-	-	0.760	0.810	0.876
Snatch	0.578	0.670	0.590	0.440	0.430	0.460
Clean	0.625	0.560	0.542	0.510	0.496	0.512
Squat	0.560	0.602	0.524	0.500	0.480	0.340
Long jump	0.425	0.396	0.256	0.230	0.298	0.326
Triple jump	0.245	0.196	0.224	0.270	0.210	0.270
Up jump	0.520	0.426	0.368	0.320	0.290	0.324
Shot put forwards	0.345	0.276	0.212	0.276	0.324	0.280
Shot put backwards	0.504	0.425	0.478	0.460	0.350	0.320
30 m b/s	0.250	0.186	0.240	0.200	0.220	0.186

GE AND SPE EXERCISES

Points to remember:

- GE and SPE exercises can produce quick results for beginners, but this is not the case with elite athletes.
- Over the long-term, lower intensities can lead to better results while also allowing athletes to save more energy for technical work and other exercises.
- Results in GE and SPE play a larger role in the women's hammer throw, but still remain less important than SDE and CE exercises.



SDE AND CE EXERCISES

Exercises	Result, correlation coefficient						
	45— 50 M	50— 55 M	55— 60 M	60— 65 M	65— 70 M	70— 75 M	75— 80 M
Hammer 5 kg	0.867	0.785	0.789	0.824	0.542	0.645	0.564
Hammer 6 kg	0.812	0.866	0.875	0.786	0.766	0.790	0.684
Hammer 8 kg	0.664	0.521	0.669	0.869	0.805	0.842	0.798
Hammer 9kg	—	—	—	0.675	0.569	0.745	0.765
Hammer 10 kg	—	—	—	0.542	0.745	0.801	0.824
Hammer 16 kg (short)	—	—	—	0.452	0.588	0.677	0.609
Snatch	0.560	0.467	0.559	0.451	0.245	0.198	0.245
Clean	0.490	0.542	0.457	0.421	0.356	0.215	0.270
Squat	0.620	0.546	0.524	0.437	0.225	0.147	0.196
Long jump	0.425	0.507	0.433	0.397	0.258	-0.214	-0.127
Triple jump	0.396	0.452	0.405	0.366	-0.266	-0.165	0.098
Up jump	0.425	0.390	0.422	0.360	-0.247	-0.200	0.124
Shot put forwards	0.455	0.424	0.398	0.245	0.167	-0.178	-0.168
Shot put backwards	0.540	0.425	0.476	-0.378	0.298	-0.245	0.256
30 m b/s	-0.178	0.387	0.330	-0.242	-0.197	-0.227	0.228



SDE AND CE EXERCISES

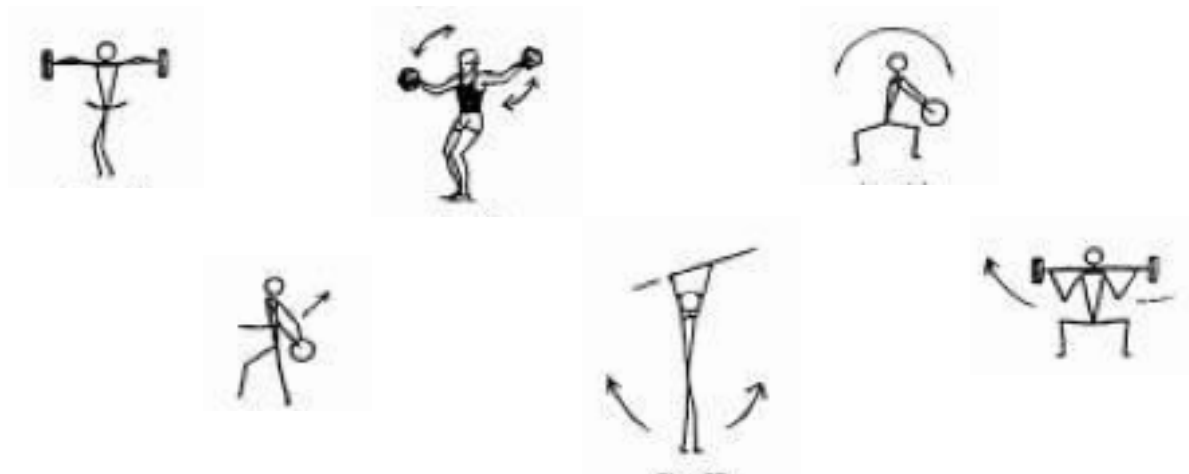


<http://www.mbingisser.com/2009/10/essential-hammer-throw-special-strength-exercises/>



SDE AND CE EXERCISES

Use your imagination. There are many options to develop special strength.



SDE AND CE EXERCISES

Points to Remember:

- Unlike general strength, special strength keeps a high correlation to results at all levels.
- Throwing is not just an exercise of technique; it also develops special strength.
- It is better to train technique and strength together.
- The elite thrower must be “strong”, but the term strong has several meanings. Focus on getting strong in the right movements.



4th PRINCIPLE

» Pay attention to
individuality

INDIVIDUALITY

- What works for one athlete may not work for another athlete. This relates both to the level of the training session (e.g. choice of exercises) and periodization model.
 - Examples: Some athletes have natural strength and need to develop that area less; athletes' bodies to training differently; women are different than men; some people have a better feeling for different weight hammers; etc.)
- Coaches must observe, record, and learn from the athlete. You can use these strengths, weaknesses, and peculiarities to develop the best training program.
- Fit the program to the athlete, not the athlete to the program.



5th PRINCIPLE

» Change and regularity

CHANGE

- The body hates change; it wants homeostasis. With most traditional training methods, an athlete will reach a plateau in 4 to 6 years because there is not enough change in training.
 - Example: many top American shot putters reach 22m quickly, but then plateau at a young age.
- Adaptation is the the basis of progress. It is not the enemy.
- When an athlete reaches a peak, you need to change the exercises for adaptation to continue.



REGULARITY

- In general, you need time to adapt. If exercises are changed too fast, the body does not have enough time to adapt.
- Finding the balance between change and regularity is important for a good training plan. This requires knowledge of the body's reaction to training.



» Review



REVIEW

Five Principles of Soviet Training

- Science is your friend
- Focus on technique
- Choose exercises wisely
- Pay attention to individuality
- Understand the role of change and regularity



CONTACT AND MORE INFO

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