

Critical Analysis of the Rotational Shot Putt progress in Britain 20 years on....

The Rotational Shot Put was hailed as the technique of the future as far back as 1974. The original pioneers of "spin" were Brian Oldfield from the USA and Alexandra Barishnikov of the USSR. In the twenty years since, many of the world longest throws have been performed by this method. But in terms of success at major Championships, only three medals have been won (Barishnikov 1980 OG Bronze/ Laut 1983 WC Bronze/ Barnes 1988 OG Silver).

There have been few papers or articles written and published in Britain about Rotational shot putt. Those that have are either written by American coaches who have had great success with their own athletes (Venegas) or by Eastern European coaches who theorise about the technique, but have had no success with athletes using the "Spin". So where does that leave British Coaches and our body of knowledge and understanding of the event?

The coaches who have focused on the technical and mechanical elements which successful throwers exhibit, always without exceptions stress the physical requirement which must exist, ie Height 1.93m, Weight 120Kg, Squat 300Kg, Bench 250Kg etc. Never or seldom do they emphasise the process of early learning.

THE STORY SO FAR

The story so far in Britain is that few British throwers have taken successfully to Rotational shot putting. The exceptions that have, did not stick with it long enough for their efforts to bear fruit. The reasons for the lack of British success is through lack of commitment in vital technical and skill development areas

1) Lack of coaches who have the understanding to teach the Rotational method of shot putting. Many coaches take linear concepts and try to fit them into a Rotational throw. The two approaches are quite different.

2) The athlete must be prepared to serve an apprenticeship of at least two/three years before any significant results and consistency are obtained. During this apprenticeship patience and focus on the short term objectives of movement improvements are more important than immediate distance gains.

3) Skill development not gross strength improvement is the most important single factor to distance gains. The approach which must prevail is that of less time in the weights room and more time doing balance/timing "feel drills"/type work.

UK ALL TIME BEST ROTATIONAL THROWERS

			Approximate Best Glide Mark	Approx Ht/m	Approx Wt/Kg	Year
1.	Shaun Pickering	18.35	17.50	1.98	140	1992
2.	Richard Slaney	18.12		1.97	140	1982
3.	Graham Savory	17.90	16.39	1.94	122	1987
4.	Andy Vince	17.75	18.06	1.86	105	1986
5.	Mark Proctor	17.45		1.92	127	1992
6.	Nick Tabor	17.12	17.92	1.80	97	1985
7.	Pete Tancred	17.00	18.35	1.90	120	
8.	Mark Higgins	16.70		2.05	150	1991
9.	Mark Aldridge	15.85	17.30	1.90	130	1991
10.	Phil Adams	15.58	14.85	1.86	125	1992

THE MENTAL APPROACH

The mental approach to the event also contrasts, the temperament of the Rotational shot putter and linear exponent being different. The patience needed to achieve success is far greater in the Spin because of the time needed to master the complexity of technique.

THE MECHANICS

The movements and the timing of their execution generate numerous forces; critical to the success is controlling the vectors and producing good distance. The margin of error is small which often results in a large number of foul throws or poor efforts. The Rotational technique is very much a "hit or miss" gamble, particularly in the early stages.

The rewards of a "perfect throw" (if such a thing exists) in Rotation are huge. The fact that the thrower is "pushing" the shot across the circle, rather than "pulling", results in much greater velocities/accelerations in the first stage of the throw (back to middle of the circle).

A suitable analogy is the experience of trying to "jump start" a car. Pulling the car will not generate greater enough force to get the vehicle up to speed. That can only be done by pushing and getting the mass of body weight behind the car.

PROBLEMS

The problem the thrower then encounters is to translate the forces when the left leg contacts the ground (assume right handed athlete) into linear velocity at the time of release. Much larger errors can occur with the rotation during the delivery stage due to the centrifugal forces which are pulling the shot away from the neck.

The first category is the larger athlete who was/is primarily a Discus thrower using an adapted Discus technique, but confined to a small 2.13cms circle. The second category is that of a smaller more dynamic athlete who is able to maximise his total energies employing the use of back and legs more actively, creating a "superior lifting" effect, a mechanically efficient rotation, rather than linear attack. The second category athlete is able to get much closer to his ultimate physical potential.

What then are the advantages of the Rotational method over that of O'Brien ? None! Both when mastered give a similar level of performance (ER Timmerman 23.06/WR Barnes 23.10). Well conditioned, technically capable throwers of either style will obtain success. What the Rotational shot technique offers is an avenue of greater improvement for throwers who do not have the physical size and strength of the gliders, and thus the opportunity to be competitive against them.

LONGEVITY

The definite advantage the rotational thrower does have is longevity. The long path of acceleration does not place as much instantaneous forces on the body, particularly the knees, back and wrist as does the glide. Because of the less abrasive nature of the movements fewer joint and soft tissue injuries should mean a longer uninterrupted career.

This is seen in the Discus throwers, who on average continue in the sport at higher levels longer than shot putters (Oerter, Wilkins, Danneberg, Gordon, Powell) etc.

CONCLUSION

In time the rotational shot will produce performances in major championships to match the conventional styles. On a world level the promise of the spin revolution has not transpired, particularly in Britain. The reasons for this lack of success are perhaps that coaches have not encouraged young athletes to participate in the shot put using the rotational style. The coaches, as do the athletes, want some sort of immediate success and are not willing to invest time into learning a complicated and often frustrating technique.

In the twenty years since the introduction of rotational shot putt, only one winner of the all English schools championships has used this technique (Litherland 1986). As the English Schools is the foundation of many of Britain's future internationalists, it is hardly surprising that as a "shop window" indicating future trends, athletes are not encouraged by coaches and teachers to use the rotational method.

MORE EVENT DEVELOPMENT

The new generation of young rotational shot putters will be athletes who have good spatial awareness, along with a highly trained and developed balance and agility level. Strength and body mass must play a part in the make up of the throwers who produce superior performance, but dynamic specific strength is the crucial emphasis.

LOW STANDARDS

British standards of rotational shot putters linger far behind those in the United States, but this gap can be closed if young throwers with the adequate skills are encouraged and coached into the event as a first option, rather than the glide being taught first.

COMPETITION FOR HEIGHT

To make this possible more information should be readily available to coaches and teachers working at all levels. The coaches can be encouraged to coach rotational shot when they themselves attend BAF Assistant/Club/Senior awards. To supplement this often limited tuition, workshops and seminars throughout Britain need to be set up, in an attempt to develop the event and encourage participation in Rotational shot, and of course field events in general. The goal of these development sessions should be to target boys and girls, particularly in the 12 - 15 age group, this age having the prerequisite motor/physical ability to control and achieve success.

Training competitions should be encouraged in an attempt to introduce the discipline of competition, emphasis placed on not fouling throws by "spinning" out of the circle. To encourage the critical "Lifting Effect", throwing for height over a bar using the pole vault stands is advantageous. This activity is fun and personally challenging and it offers another avenue for improvement to the athlete.

VIRTUES OF SUCCESS

Patience is a virtue which along with devotion and enthusiasm will spark off the long awaited rotational revolution in Britain, in what is an exciting visual event to watch and participate in.

