

Understanding Our Sport, Part 2: SHOOTING FOR PERFECTION

There's an innate difficulty in explaining that which you cannot see. Perhaps that's the biggest problem when trying to understand shooting as an Olympic sport.

As sports fans, we're conditioned by the tangible result. Crossing the finish line first, a judge's decision, and higher points on a scoreboard are elements of decisive competition we can comprehend. Even in archery and shotgun, you can see the arrow or shot shell hit the target.

In precision shooting, virtually nothing is visible. Bullets zoom into indistinguishable targets at speeds undetectable by the human eye. Like many Olympic sports, degrees of separation between good and av-

erage are miniscule at best. Video replay for most sports gives the audience the visual representation needed to discern a win from a loss. That type of sophistication isn't available to the shooting sports.

2012 Olympic gold medalist Jamie Corkish knows this reality all too well. Before eventually winning gold in London, she had to deal with the bitter disappointment when almost wasn't enough. But, spatially, what does almost mean?

She finished fifth in her Three-Position Rifle event

by 0.7 point, which is less than a centimeter over 60 shots, or less than half the diameter of a dime. Or one more 10. She shot 53 of her 70 shots inside the 10-ring including Finals, a 75% clip at a circle the width of your thumbnail. She was fourth in Beijing and fifth in London in Air Rifle, missing medals by a cumulative measure of no more than half an inch. Following retirement, her career vitae will display just one Olympic medal, but the underlying truth is that she was a dime away from doing what only one other person

in the rifle discipline has ever done by winning four Olympic medals in their career.

For a better understanding of the target dimensions Olympic-style shooters face as well as the scores that they're shooting for, check out the corresponding chart below.

At its best, the Olympic shooting sports are outwardly unspectacular, but only to the untrained and unknowing eye. It's as much an art form as it is a sport.

National Team member Sarah Beard puts it like this:

HOW SMALL IS IT?

	10-RING SIZE	EQUIVALENT	PSS SCORE	WORLD RECORD
50M SMALLBORE RIFLE	1 cm	Thumbnail	M 3P (40 shots/position) = 1169; W3P (20 shots/position)= 583; Prone = 624 (10.4 avg)	M 3P = 1186; W 3P = 594; Prone = 633.0 (10.55 avg)
10M AIR RIFLE	0.5 mm (about 0.02 inches)	Pencil Tip	M (60 shots) = 625 (10.41 avg); W (40 shots) = 417 (10.42 avg)	M = 633.5 (10.55 avg); W = 422.9 (10.57 avg)
10M AIR PISTOL	1.1 cm (about 0.45 inches)	Dime	M (60 shots) = 582; W (40 shots) = 384	M = 594; W = 393
50M FREE PISTOL	5 cm (2 inches)	Coke can	(60 shots) 560/600	583
25M RAPID FIRE PISTOL	10 cm (4 inches)	Softball	(60 shots) 582/600	593
25M SPORT PISTOL	Precision -- 5 cm (2 inches)	Coke can	(60 shots) 582/600	594
	Rapid -- 10 cm (4 inches)	Softball		

* PSS Score - Performance Standard Score equivalent to what score is needed to make most ISSF World Cup Finals.



Emil Milev

Photo by: ISSF

“Just like any sport, everyone can do it. Anyone is capable of shooting a 10. That’s the easy part. But shooting 10 10s in a row...that is hard. And shooting mostly 10s for an hour, that is hard. It’s even easy to have one rare amazing match. But to shoot consistently world-class scores at matches in practice for several years, that is the true challenge. If you really want to be successful as a shooter, it takes a lot of focused practice and so much discipline.”

Shooting is similar to the golf stroke. It’s a mastery of precision, a comfort level with that precision, and controlling every element of that precision to shoot the exact same way, time and time again.

“The best way I know to relate the level of precision in this sport is by explaining some of the tiny details that have major impacts on

outcome,” Beard explains. “For example, you would be shocked to know how much time some of my teammates put into modifying the pistol grip of their rifle. I have spent hours and hours working on my grip, dremelling away, then adding some epoxy, then dremeling...and when I finally think I’ve perfected it, I realize it bulges a little bit on this tendon in my hand, which causes the rifle to move ever so slightly when I pull the trigger. Which, of course, I can’t afford. So the work continues. In the standing position, having one foot out a couple of millimeters too many means a big change in the natural point of aim, which translates to forcing the rifle onto the target instead of relaxing into a consistent position. Sometimes people only realize this halfway through the match, when they’ve already sacrificed too many points to

win, all because of that foot. And by ‘too many points,’ I mean maybe 2 or 3. In any position, having the face angled slightly differently for one shot means aligning sights and the target incorrectly—making this mistake several times can easily cost you the match.”

In pursuit of perfection, mastery of fundamentals only gets you so far in the sport, however. So many factors go into making the perfect shot and repeating it over and over again. Again, it’s the things people can’t see that usually makes all the difference including heart, breath and brain.

Of the heart, Heinz Reinkemer and Gaby Buhlmann establish in their book *Sport Psychology and Competition*, that it assumes the role of tragic hero in the shooting sports. Many shots miss their target because the heart’s agitation causes

the competitor’s hands to shake. If you make a mistake, they claim, your pulse can shoot up from 60 to 200 beats a minute in a fraction of a second. When shooting under normal conditions, your pulse fluctuates between 80 and 140 beats per minute. It doesn’t take long to reach 140 to 160 beats per minute and it can reach as high as 200 beats per minute under extreme circumstances.

“I swear in the 2012 Olympics my heart rate was 160 bps on my last shot in the final,” recalls Corkish. “160 bps — that is what I run at — but nerves can do that to you. Now think about your heart rate beating that fast and having about 15 seconds to calm it down to load and shoot another shot where you are trying to hit a dime from 54 yards away.”

In shooting, breathing is an integral part of the



Photo by: Getty Images

Jamie Corkish

technical processes and requirements and is further stabilized by thousands of repetitions. Even the slightest mistake while drawing a breath can jeopardize this delicate dynamic.

Now two-time Olympian Sarah Scherer explains the type of complexity that goes into her breathing using three levels of abdominal muscles and the diaphragm and how that is intertwined with support and position. “As rifle athletes, we have to be able to independently contract and relax these to properly support our position but also limit muscle tension which slows the movement of our rifles. This skill to simultaneously relax a muscle group and contract another muscle group takes years of training and development to attain this extreme level of body control... This level of control is one of the many athletic skills that makes us elite. I can boldly say that the level of mental control over our bodies is one of the most impressive out of all sports. This skill is one that takes you from being good to being great.”

The real malady in shooting, however, comes in competing against oneself. Shooters are not defined by their strength, speed or stamina, but by the way in which they conquer the demons within their own minds. Often times, it is the biggest separator in a sport in which perfection is demanded.

Shooters are continually looking for that zen-like state, trying to find the perfect balance between tuned in and not tuned up.

The exact state they are trying to reach in their mind and thought processes is described in the *Zen of Archery*, a short book by German philosophy professor Eugen Herrigel. Here’s a passage that represents the goal for any shooter:

“‘The right art,’ cried the Master, ‘is purposeless, aimless!’ The more obstinately you try to learn how to shoot the arrow for the sake of hitting the goal, the less you will succeed in the one and the further the other will recede. What stands in your way is that you have a much too willful will. You think that

what you do not do yourself does not happen.’

“‘What must I do, then?’ I asked thoughtfully.

‘You must learn to wait properly.’

‘And how does one learn that?’

‘By letting go of yourself, leaving yourself and everything yours behind you so decisively that nothing more is left of you but a purposeless tension.’

‘So I must become purposeless on purpose?’ I heard myself say.

‘No pupil has ever asked me that, so I don’t know the right answer.’

Ise Tadatake says, “Training the mind is the most vital thing. If the mind is agitated the spirit is agitated; if the spirit is agitated the heartbeat is agitated; and if the heartbeat is agitated the whole body is agitated, so the target will not be struck.”

It is for this very reason that most elite athletes in the sport spend almost as much time with the psychological as they do the physical. Mastery of both fundamentals and mind is the ultimate objective.

As the Kyodo (Japanese archery) teacher and author Kaminaga Masakichi Hanshi once claimed, “Perfect shooting is proof of a perfect mind.”

The art of Olympic-style shooting comes in the intricate fundamentals, the beauty of the equipment, the harmonious balance of the mind all within the atmosphere of solitude present at the range. Master all of that and you’ve executed one shot. But they don’t hand out gold medals for one shot and thus it’s trying to replicate perfection that makes this sport so hard. Or as a popular Zen saying goes: “Thousands of repetitions and out of one’s true self perfection emerges.”

“I know that at least most of the rifle shooters wouldn’t object to being labelled perfectionists,” concludes Beard. “The amount of time it takes to develop an insane attention to detail from so many different approaches is what distinguishes elite precision shooters from the rest.”