

The “Imperfect Gap” A shooter’s Inquisition.

By Ed Palubinkas [Shooting Surgeon]

Shooting a basketball is a relatively simple movement as a whole. Simple in appearance but complex in actuality. It seems like the more I learn and understand through analysis of self and every other player I see, the more I come to grips with the shooting problems or inconsistencies suffered by shooters or players all over the globe.

In the early 80’s of the last century, I was a consistent shooter in the low 90’s. Much better than average but a far cry from the perfection I was seeking. I actually led the nation in 1972 with a 92.4 FT %. Best among all High Schools, Colleges and Professional ranks. At that time its just the way it was for me. But I could not recognize the reason WHY I was considerably better than 95% of my fellow hoopsters. I had good touch and a great sense of being able to adjust to surrounding conditions. New gyms, lighting, floor, rims, nets, officials etc.

My shooting ability carried over from leading the nation in FT % to leading the Olympics in scoring in 3 categories in 1976 and losing the scoring title in 1972 by one measly point. I will admit that I did not seek these titles since at that time I did not even know they existed. Bottom line is that I was a shooter and a scorer. The worst kind of opponent to compete against.

(You do need to be aware that I only had the basic shooting instruction that everybody gets. I never got anything from any coach that would elevate me to any level of greater excellence beyond High School. My own work ethics and desire for shooting excellence was the springboard for my success. This sounds very final but it is the real reason that I now am able to shoot at 99% from the FT line all the time).

It wasn’t till 1981 when I had a head on collision with a concrete bridge on a clear freezing nite on the country roads of Utah that this “mystique” or enigma of shooting mediocrity begun to unfold. Being hospitalized for 10 days and later relegated to a wheelchair and the rehab ward for several months. The damage I suffered affected my whole right side. I had a compound fracture of my right shin bone and my right humerus (shooting arm) as well as 3 right ribs busted. At the time of impact I was more concerned about the shooting arm than life itself.

Anyhow, with Time on my side I started shooting drills in the wheel chair which was very awkward, but this became a time of deep self analysis of my own shooting skills. I completely dissected the whole anatomical structure as it related to the shooting process. It really bothered me why I could’nt get over the 94% mark. My mind said, if I can make 2 in a row, then why not 4, 6, 10, 250, 500 consecutive ad infinitum.

Then I developed the “IMPERFECT GAP THEORY”, which is what drove me to a greater in depth understanding of shooting mechanics and techniques. The “Imperfect Gap” or (IG) is basically the percentage of deficiency compared to the percentage of efficiency which gives you the Shooters IQ or Intelligence Quotient. In a formula format it would look like this:

$$\text{Shooter's IQ} = \%E(\text{fficiency}) - \%D(\text{eficiency}) = \text{Imperfect Gap}$$

In layman terms, if you average 72% (like the NBA) then you have a 28% IG. If you shoot 60/100 your IG is 40. Not too complex but disturbing if you are a conscientious player or coach. In my case my IG was 6% from 1972-1981. From 1981-2003 my IG is 1% from the FT line and 10-15% from collegiate 3 point line.

Heres how I recommend you figure out your own shooters IQ by diligently tracking your IG. Easier said than done. The first step is to shoot 500 to 1,000 free throws in groups of 100’s. It

takes me about 8-9 minutes to make 100. Not just shoot but make. If you miss 20 you have to chase around for the rebound unless you have a rebounder or one of my new Free Throw Master" Ball return units which will be available in January. (It allows about 100 shots in 5-6 minutes). It may take you 10-12 minutes to get your first IG. Just shooting 100 is not a fair indicator of your IG.

Lets say you hit 71/100 on your first try. The IG of 29 is rather large and thus there is a good chance of error of around plus or minus 5%. In other words on your 2nd hundred shots you may hit 68, 3rd hundred -73, 4th hundred -76 and final 500 you make 65. If you follow this format this tells me your shooting mechanics have averaged out at 70.3 or your IG is 29.7. No one is happy with this IG so they keep practicing even more without any drastic improvement because they keep shooting in their already developed technique which fits into their own anatomical comfort zone which obviously needs major reconstruction.

Long hours of practice will lead to some improvement, but until there there needs to be a new mental approach and complete mechanical breakdown and comprehension of all moving body parts. If not, your physical DNA or genetic makeup is going to continue "shooting" in its own anatomical 'comfort zone'.

Your IG is 29.7%. To reduce this sataistical gap you new mental approach should be to reduce the 30% deficiency. Here's the problem. If you continue shooting in the same way you always have or in your own learned habitual, anatomical comfort zone, then your numbers will remain the same give or take 1 or 2.

I know for a fact that 99.9% of players out there think of making the basket at the moment the ball is released. This is a BIIIIIIIG PROBLEM.

Since the mind can only think of one thing at any given moment, how can you give the shot the best chance of success if you think of the end result (score) while the ball is still in your hand just about to be released. Coaches, go ahead and ask any of your players this question. "What are you thinking, the moment you release the ball"? Surprise. Then ask them "why they missed the last shot"? They just don't know. And this is the real reason why most players' IG is never reduced by any relevant numbers.

Let's be Einstein for a moment and analyze. Since you are a 70 %er, or your IG has flaws that make up 30%, what is the biggest flaw that can be corrected in the least amount of time?

*What causes the ball to go right, left front or back of the rim?

*Why is the shot flat?

*Why cant you shoot the ball straight with the center of the rim all the time (make or miss irrelevant)?

*Why does the errant shot rebound so far?

*Why cant you make 2 shots in a row exactly the same in relation to the net entry angle?

These questions , if and when answered and understood will make a huge difference in your accuracy re-engineering because it will force changes in the physical mechanics to reduce the IG percentage. Why repeat a behavior that is mediocre or inefficient unless you don't know what to do about it?

Here are some possible answers to questions you need to ask players who regularly miss?

1). Maybe the biggest flaw one has is horizontal movement of the elbow just prior to locking the elbow and releasing the ball. The elbow can move left or right of ideal line, depending on flexibility of individual.

2). Irregularity of ball direction is a direct result of finger closure on ball release. By this I mean that the fingers should never touch each other or bend at the knuckles on the follow thru. Just as

the hand is wide at the beginning of the shot, it should stay that way at the end of the shot. This is all part of the "Palubinkas Perfect Shooters Triangle Theory". There is REAL strength, accuracy and consistency in my wide finger release theory.

3). The angle of entry=the angle of release. You can tell a shot is flat if the ball hits the side or back of the rim or comes back into the net real shallow, or if the ball ever hits the rim more than once on entry that indicates the ball flight is not at it's optimal angle.(42-48degrees).

4). You cant shoot consistently straight because the ball doesn't come off the index finger last or which I call the #1 finger. Do 2 finger pushups with thumb and index finger for 30 seconds. You will immediately feel the pain in the pad of the index finger and it is this area of pain that needs to be transferred to the ball on the release.

5). Your missed shot rebounds too far because ball is too flat, too high and off line. All mechanical flaws.

6). You can't make 2 or more shots exactly the same because the abll is never released from the same touch point or finger pad. (#1)

7). Anytime both hands are on the ball at the same moment of release, this increases the chance of inconsistency of delivery.

8). Just about every shooter's fingers bend at the knuckles and squeeze together at the ever such important follow through. Do YOU know which finger touches the ball last every time? Most players can't tell because their fingers are not isolated and thus unaccountable for their actions. I can tell and that's why I can make 99% of my free throws. You could say I am in touch with my feelings. Something that the females can associate with more than the males.

I have broken shooters into 3 categories or classifications:

- 1). Anatomical anomaly or genetic aberration.
- 2). Cognitive deficiency
- 3). Behavioral dysfunction or habitual inconsistency.

Great shooters (above 95%) are usually exempted from any class. Poor shooters could be in all classes and average shooters may have one or more. A great example is Shaq. Not only his size is abnormal but his bone structure is rigid and he had a broken bone in his wrist when he was younger and it did not heal right. Also he was grossly deficient in his shooting IQ or his shooting cognizance of the science of mechanics.

Being in the first 2 classifications really affected his mental and physical shooting behavior and mechanics. He was 38.3% when I started with him and 8 months later he finished at 69.4% as well as making 13/13 in his last game against Denver.

Behavioral dysfunctions or habitual inconsistencies are a national epidemic and until we realize our own classification and what can be done about it we will only realize very small improvements, if any. There are great rewards for shooting self improvement. You must understand that you can achieve self-mastery and the subsequent control of the destiny of every shot. It is in your hands, literally.

Here is a simple checklist for shooting more consistently with better mechanics.

SHOOTERS CONSISTENCY CHECKLIST:

ALIGNMENT

GRIP

BODY TILT/FEET ALIGNMENT

SHOOTING POCKET/

HAND WIDTH

TIMING OF RELEASE

ELBOW ANGLE/PREFERABLE TO BE 90 DEGREES TO FLOOR.

FOREARM ANGLE/SHOULD NOT BE 90 DEGREES TO FLOOR.

