"Top 5 Reasons Why *PRI Integration for Baseball* Is As Good As It Gets"

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First off, please keep in mind that the views that I express in this article are my own opinions and shouldn't be taken as anything more than that. And the population of athletes that I work with certainly biases me but this course was, in my opinion, "as good as it gets". The course material should be nothing less than a preeminent resource for baseball sports medicine professionals. And I know that some of you are probably saying to yourself, "Well I don't work with baseball players so this course is not for me". But I would tell you…

1. That you don't just have to work with baseball players to get something out of this course.
2. That if you work with other strongly patterned, rotational athletes like tennis players, volleyball players, golfers, or track and field throwers you will benefit from taking this course.
3. That even if you are treating soccer moms, blue and/or white collars, or weekend warriors you will get something out of this course.
4. There's something in this course material for all of us.

And I am by no means a seasoned PRI practitioner (getting there though) and in the past I've been skeptical of some of the science and practicality of the application. So hopefully my job and the experiences I have had gives me a unique perspective to share some of my highlights from the course with you. So without further ado, here are my top 5 reasons why this course was "as good as it gets".

1) The PRI introductory material that James Anderson goes over for the first 4 hours of the course is invaluable. It's nothing short of exceptional that he and Allen Gruver were able to condense down, basically, 4 courses worth of material into 4 hours and do so in a clear, understandable way. Even for those who hadn't taken a PRI course before. Honestly, I had a more clear understanding of all the basic PRI science after the first 4hours of the course than I did after any of the institute's other introductory courses.

   Here's a quick summary: Organ placement (yes PRI skeptics, organ placement…you know, liver is on the right, heart is on the left), cortical influence (the left side of our brain is better at motor control type tasks and controls the right side of our body), and hemi-diaphragm size difference (the right side of our diaphragm is larger, has a thicker/larger central tendon, and attaches lower on the lumbar spine) all contribute to the normal, human L AIC/R BC pattern (see below for quick explanation of the acronym). So here's the orthopedic end game of all this…if balance is not maintained in all those non-musculoskeletal systems there are detrimental arthrokinematic and osteokinematic consequences. Muscles lose leverage and efficiency, joint

surfaces get worn away, capsules and ligaments get tight or lax, discs get torsioned/compressed, labrums get torn, etc.
* L AIC/R BC stands for L Anterior Interior Chain/R Brachial Chain. It is just a name for chains of muscles below T8 and above T8 respectively that, because of the reasons listed above, become hypertonic/always turned on/facilitated and pull, push, and hold us into one side of our body (happens to be the right).

2) Allen Gruver's presentation on the advanced biomechanics/myokinematics of throwing and hitting, and the influence of the underlying patterns for righties and lefties were second to none. It was by far the best presentation I've ever seen on this topic and I've read a ton of biomechanical research and seen a ton of presentations. And I've always come away frustrated because I knew that the way it was being described in the literature or on the podium was not the way it was actually happening.

   Allen described the motions at the pelvis in terms of the acetabulum moving over the femur (AF) not the femur moving on the acetabulum, which is correct, and basically the opposite of how all the research that I've read describes it. He goes into great detail, complete with mega slow motion video, for all the phases. I now know more about the intricacies of the windup phase for righties and the deceleration phase for lefties, for examples, than I ever did before.

   There was also a great portion of this section dedicated to the mechanics of the dreaded "inverted W" and it's implication on thoracic spine/rib cage osteokinematics and positional muscle weakness. Allen also went into the topic of "wrist pattern integration" and it's effect proximally on the shoulder, scapular, and thorax through the phases. For more detail see #4 below.

3) It was reassuring to now know that the normal human pattern (L AIC/R BC) is not the only pattern you can see in a baseball player or any other high-level, high-demand athlete. Anyone, especially high-level athletes, can compensate out of the normal pattern because of: asymmetrical/repetitive usage, pain, injury, etc.

   The past couple years, when I would test players I'd see a normal pattern in some/most cases but often times I wouldn't. I didn't know what to think or how to help them. Honestly, getting inconsistent testing results lead me to question the reliability of the tests and the science in general.

   I'd been educated on compensatory R BC patterns, like superior T4 syndrome, in previous courses but some times I would see what I thought was a complete reversal of the normal L AIC/R BC pattern. Turns out I could

have been. There is a compensatory pattern, although not at all common, that looks like a complete reversal of the normal pattern. And it happens to happen in lefties.

It was also reassuring to hear Allen speak in PRI terms on concepts like anterior GH laxity, GIRD (glenohumeral internal rotation deficit), and TRM (total rotational motion) and what you'll see with your testing that could throw you off. These concepts are near and dear to the heart of any baseball sports medicine practitioner as it's beaten into our subconscious by at least 10 different peer-reviewed research papers that come out on the topics each month and by every other presentation given at the national baseball conferences.

4) This course, although obviously focused on the science and application of PRI to patterned, rotational athletes also integrated **and separated** itself nicely with other commercial models and popular theories that I also currently use in one way or another.

   At some point during the two-day course, either directly or indirectly, Thomas Myers' "Anatomy Trains", DNS (Dynamic Neuromuscular Stabilization), FMS (Functional Movement Systems), PNF (proprioceptive neuromuscular facilitation), Andreo Spina's FRC (Functional Range Conditioning), and Vladimir Yanda were all referenced. And I'm sure there were a lot more that I missed.

   Some key points that I took away:

   PRI's reference centers are not the same but are not entirely different than DNS's (RL) reflex locomotion points. They're both about using points/areas on the body one way or another to get joints to centrate. More so, PRI's and DNS's philosophy are pretty similar but diverge at one key point that PRI preaches. Early lateralization to the right, plain and simple.

   Vladimir Yanda's "lower crossed syndrome" can be thought of unilaterally as an AIC pattern or bilaterally as a PEC (posterior exterior chain) pattern. I also saw elements of the Functional Movement Screen's "Rotary Stability" test and of the SFMA (Selective Functional Movement Assessment) in the baseball specific functional testing that Allen went over. Again, it's not completely the same but it's not all that different either.

   And as I said above in #2, Allen's presentation on "wrist pattern integration" showed me how the appendages as far distal as the wrist, can control what the shoulder, scapula, and thorax do. And the cool thing is that it is all just the principles of PNF (that we learned back in PT or AT school) and applying them to the throwing and hitting motions.

5) This course debunked some of the common PRI myths. Here are 3 that I've heard at one time or another:

   Myth #1: PRI teaches a hyper flexed lumbar spine. Truth: PRI does not. It does not teach to hyper flex the lumbar spine/thoracolumbar junction, especially under load, despite whatever videos are on YouTube. It teaches relative flexion back to "neutral" from a commonly hyperextended state. I'd say hyperextension (either on one side of the body or both sides of the body) is the common default I see players locked into when they're stressed, fatigued, or have trained a certain way for a long time. Toned up, sympathetically driven extension is good when your lifting heavy things (which I'm a big fan of) but it's maybe not such a good thing to stay that way in between innings when you're trying to recover from the 200+ innings you've already thrown this year and you've got to go back out and pitch the 9th inning of a win or go home playoff game.

   Myth #2: PRI is not just a theory based on where the liver is in the abdominal cavity or the fact that the heart is on the left side of the chest wall or that the right lung has 3 lobes as opposed to the left which only has 2. Truth: Orthopedic sports medicine professionals, if you're getting hung up on that and it's keeping you from learning and applying, at least some of, the science then I'm sorry but you're missing a lot of great information with direct orthopedic implications, especially for patterned, rotational athletes.

   Myth #3: PRI is just about blowing up balloons. Truth: Using a balloon is just a tool, an effective one though, to get greater concentric abdominal activity, particularly on the left side, during exhalation. Use a straw, use your hands, or don't use anything. In reality, if you're getting hung up on having a bunch of balloons laying around your clinic or training room, then, refer to the last sentence of myth #2.