The New Approach to Conditioning the Athlete

Conditioning has been a process of communication and planning between the position or head coach and the strength and conditioning coach. This model was established forty years ago with the advent of the National Strength and Conditioning Association, which took a leadership role in this process. It was the birth of the performance team.

But things have changed forty years later. The performance team has grown with sports nutritionists, exercises physiologists, massage specialists, etc. A new member of the performance team is on the horizon. We have discussed issues in past editorials such as lack of physical activity in today's youth. In addition, poor strength training exercise techniques and loading practices have led to poor movement skills and muscle compensation. These have also led to increased chances of injury and reduced athletic performance in today's young developing athletes. Simply talk to any collegiate or professional strength coach for verification. We have introduced our Movement to Muscle (M-2-M) to educate coaches on how to remedy the issue.

The question now becomes: Who is responsible for creating a correct movement culture in these developing athletes before and during college, all the way to the professional level? This involves the skill coach, the strength coach, and perhaps a third-party movement coach. The following is the new paradigm triangle involving movement in the conditioning process without consideration to the recovery process:

Who is the movement coach? Ideally it would also be the strength and conditioning coach. This would create a more efficient mode of operation in developing the athlete. The strength coach is in charge of muscle development. But before or as part of muscle development movement screening, movement-corrective exercises should be incorporated. The movement coach could also be an ATC or PT with training in this area. But can movement training be separated from muscle training? Is there enough time to do movement training? What would the communication process with the skills coach look like with three individuals involved?

Educating the Strength Coach

To create the ideal environment if the strength coach takes on the responsibility of educating themselves on movement screening and corrective exercises, the movement to muscle transition would be seamless. There is a lot of opportunity for the strength coach to learn about screening with several programs out there. But if an athlete fails a screen, exercises should be prescribed to deal with the movement problem and to integrate this with proper exercise techniques and continued screening as the athlete develops. Should there be a new designation? The CSCS + Movement Specialist?

Something to Think About

Ken Kontor, Publisher
IS YOUR STRENGTH PROGRAM DOING MORE HARM THAN GOOD FOR YOUR ATHLETES?
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INTRODUCING

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Moving to the Muscle Program
Over 500 strength exercises presented with illustrations- use as a stand alone or when viewing exercises on the internet to confirm proper exercise techniques.

Follow these Muscle Principles-to gain strength and maintain good movement skills

#1 No Exercise is bad, it is how it's done and applied that makes it bad.

#2 Strength exercises should be done in a safe environment.

#3 Avoid Muscle Compensation by
• Having muscles move (fire) in the proper sequence to insure proper technique.
• Not loading too much weight that encourages improper technique.

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Reign of Errors: Why Birth Date Is So Influential In Baseball

Phil Loomis, President Baseball Fit

Malcolm Gladwell in his book Outliers described the relative age effect in sports; athletes born in the month(s) immediately following the age-cutoff date are disproportionately overrepresented in the sport. For example, data kept from 1950-2005* shows that most American Major League Baseball players were born in the month of August (503). Further, every month after August of a particular birth year until July 31 of the following year, (313) there was a steady decline in the likelihood that an American child would become a major leaguer.

The result:

In almost every American youth league, the oldest players had been the ones born in August, and the youngest were those with July birthdays.

For example, someone born on July 31, 2000, would almost certainly have been the youngest player on his youth team in 2011, his first year playing in the 11-and-12-year-olds league, and of average age in 2012, his second year in the same league. Someone born on Aug. 1, 1999, by contrast, would have been of average age in 2011, his first year playing in the 11-and-12-year-olds division, and would almost certainly be the oldest player in the league in 2012.

Twelve full months of development makes a huge difference for an 11- or 12-year-old. The player who is 12 months older will, on average, be bigger, stronger, and more coordinated than his younger counterpart, not to mention more experienced. And those bigger, better players are the ones given opportunities for further advancement. Other players, who are just as skilled for their age, are less likely to be given those same opportunities simply because of when they were born. Bryce Harper would've been a star no matter his birth month,
but a player like Dustin Pedroia (8/17/83) who has less natural aptitude for the sport, might have gotten a small leg up over similarly skilled players because he's an August baby. It's clear by the numbers that this small advantage can have an impact that lasts a lifetime.

In 2006, USA Baseball changed the domestic age determination date to April 30 of the current year. The age of a baseball player as of April 30 is that player's "league age" for the season.

According to USA Baseball:

_The primary reason to change the domestic determination age is so most players on a team will spend the majority of the regular season at the same chronological age as their league age. Currently, more than 95 percent of all local Little League programs start their seasons before May 1._

_Most youth baseball organization members under the jurisdiction of USA Baseball have adopted the April 30 age determination date.*_

With the new rule it will take a while to shake out how this affects rosters at the Major League level but I think we should definitely be aware of the historical data. Those who fail to acknowledge history could lose out on a significant pool of talent if we don’t think this thing through a little more critically.

For example, does moving the cutoff date from July 31 to April 30 really matter? It doesn’t appear that this will actually fix anything over the long-term. All that will likely happen is that kids born in the month of May will now have a big advantage. After all, players born immediately after the age determination date have been shown to have a decided advantage over players born in the months just before it because they are more physically mature and able to dominate their competition at the youth level.

Allan Simpson in the February 2005 edition of Baseball America wrote-

_Research has shown that a majority of players on youth league all-star teams of all age groups are born in the four months immediately after July 31. That advantage carried forward to the major league level, as more 2004 big leaguers were born in August (123) than any other month, and the fewest were born in July (89)._

If we chose to we could acknowledge that cutoff dates matter. We could set up different tracks of development, one for the early developers and one for the potential late bloomers. Keep those late bloomers involved during their developmental years and continue to provide them with quality coaching and instruction. The results should be significant. In 2 or 3 years, you would have a much larger talent pool to choose from.

According the Bill James online:

_If organized baseball could manage to develop these overlooked ballplayers as well as it develops August-born (now May) talent, there would be 25% more MLB-caliber players. The league could expand to 7 or 8 additional markets without a drop in quality, leading to more revenues for the league, owners, players, and individual cities._

The solution won’t be easy but even a small group of committed individuals can make a big difference. By placing an emphasis on athlete development rather than arbitrarily rewarding those with the happy fortune of being born in August… or now May we can start to create the necessary social proof that will be vital for getting the attention of the entire baseball community.

The organization that decides and acts to serve in the best interest of their young athletes will undoubtedly become an Outlier, an organization with humble intentions that will become the beacon for others to follow.

*In 2006, the age cutoff date moved from July 31 to April 30.*

Contact Phil at: Philloomis@yahoo.com
Members’ Forum

Creating a Culture of Movement: Lessons from the Dominican Republic

Mike Myers, Houston Astros Assistant Strength and Conditioning Coach (Dominican Summer League), Santo Domingo, Dominican Republic

Mike completed his undergraduate work in Kinesiology at Penn State University and his Master’s degree in Exercise Science from the University of South Florida. He holds certifications in CSCS, USAW Performance Coach Level 1, Functional Movement Screen (FMS) and Foundation Training. Prior to coming to the Astros, he was with the Philadelphia Phillies as a strength and conditioning intern. He also did internships in strength and conditioning at the University of South Florida, Pennsylvania State University, Stanford University, and Bucknell University. As an athlete, he was on the Baseball AMCC Academic All-Conference Team at Penn State Altoona.

The Dominican Republic offers the conditioning professional a unique opportunity to work with young athletes who have little or no experience in conditioning. They come to their academies with a “clean physical slate,” which provides an opportunity to develop a culture that will enhance their performance through conditioning, starting from the beginning. The culture as done by the Houston Astros starts with proper movement activity and then develops strength and muscle mass, with focus on the continuation of proper movement skills. This culture is not part norm in the world of baseball strength and conditioning. Is it realistic to expect culture change here, focusing on good movement skills coinciding with sport skills and enhanced by proper physical conditioning? Young athletes face inactivity from social media, video gaming, and cell phone addiction that are exacerbated by the lack of physical education. Where do you begin?

Performance Conditioning has introduced our Movement to Muscle program in an attempt to intervene with the development of the young athlete to correct and teach good movement skill for strength training programming. The M2M mission statement is to educate and empower the sports coach to test proper movement skills in their athletes. Based on negative test results, the coach provides a corrective exercise program to improve movement skills. After the athlete...
passes all movement tests, a strength program can be implemented. Movement tests can also be done to ensure the continued effectiveness of the strength program and of continuous, year-round sports play, all with the intent to prevent injury. Hopefully what is done in this culture can permeate to the youth culture in the United States. It is a tall order, but the following article offers a fresh look in changing in our culture. — Ken Kontor
Publisher, Performance Conditioning Baseball Softball

One of the most formidable experiences in my short career thus far was at Stanford University. The staff there stood out from the others because of their high standards for both performance and movement. I had interned several places before Stanford, but no one viewed exercise as something more than just sets and repetitions as they did in Palo Alto. At times, strength coaches simply aim to implement training methods—no questions asked. But Stanford fortified their program with quality. It was a culture in which even the players would hold each other accountable for doing the exercises correctly. This experience solidified my belief in this way of coaching; it just made sense. The basic idea is to have quality with each lift. What made my time at Stanford even more interesting was that I worked with the football team. Often times I hear coaches saying, ‘sure that works in other sports, but in football, you just have to get them strong!’ This may be true, but it begs the question: How do you identify define strength? Is it a back squat with knees caving inward, the pelvis dumping forward and the back rounding? If your technique is bad and postural compensations are visible, you should not define it as strength because you cannot be strong in compromised positions.

Defining Strength: A New Definition

We define strength not by how much force an athlete can produce, but also, how efficiently that force is being produced. In baseball, for example, we define success in the swing by talking about variables such as exit velocity. Exit velocity tells us how much force the batter is producing but the question then becomes how well or efficiently is the swing pattern producing the force. If the movement is performed with an efficient kinematic sequence (http://www.mytpi.com/articles/biomechanics/kinematic_sequence_basics), that force can be reproduced consistently while minimizing risk for injury. The same example applies to the weight room. As strength and conditioning professionals, we often obsess over how much force players can generate during a max effort back squat. This is defined by absolute strength or a one repetition maximum lift. More importantly, we need to take a deeper look at the quality of the movement the player is using to produce that force. If the squat is not completed with proper form, that in itself is a weakness; just as we would consider improper throwing or running mechanics as weaknesses. Over time, this will lead to a common and predictable breakdown pattern that may lead to serious injury, reduced force production and reduced performance variables.

Striving for Objective Movement Testing and Creating a Movement-Based Culture

The basis for creating this culture is to hold athletes accountable to the correct way in strength training. In order to do this, the players must know what constitutes as good movement patterns and how this concept is integrated into strength training. The other important factor is having staff members on the same page. This is a task that is addressed by our Latin American Strength and Conditioning Coordinator, Rachel Balkovec. She has directed this program and staff more and more towards improving human movement over simply loading weight on the bar. Establishing the culture amongst our coaches has been a driving force in creating the culture amongst the players in the Dominican academy.

Accountability: The Importance of Assessments

If we want a true change to occur, we have to shape an environment in which athletes will change. The process we use is: objectively testing for movement, retesting frequently throughout the season, and creating corrective groups in order to improve faulty movement patterns. The objectivity keeps us accountable as coaches. We need a system that clearly and undisputedly shows us if an athlete is getting better, worse or staying the same. That lets us know if our corrective exercises are really working. If there is no improvement, we are missing something and we take that to heart.

For example, in one of our assessments we use a variation of the overhead squat. We have developed a system in which our coaches can see precise changes in the squat positions well beyond simply screening the athletes. This system goes beyond a one, two, or three grading scale popularized by several mainstream movement screens. It is based on joint angles and center of mass displacement that can be seen using video. This serves a two-fold purpose. Not only can the coaches see if the program is working, but it also provides visual proof for the athlete that the effort that they are devoting to make the change is time well spent. Whatever movement assessment screen a department chooses to use, they should
make an attempt to establish their own protocol that fits their time, equipment and athlete needs. For example, in baseball we have a large amount of athletes and they are all over head throwing and rotational athletes. Our norms will be different than other sports and the time constraints placed on assessments will be much different that an NBA team that only has 15 athletes. Education, frequent assessments and feedback are extremely important in what we do with this process. In the first stages of the process, we explain to the athletes why they are in the corrective groups by showing them video of the examples of great movement quality in comparison to movement quality that needs to be improved. We teach them how these movements relate to injuries. The final step is exercise prescription.

**Movement Correction: Start at the core. Literally.**

Weight lifting challenges posture. When completing a repetition for a back squat or dead lift, you must have a strong spine. If the shoulders are rounded or the pelvis is anteriorly rotated, you are not in a strong position to effectively complete the exercise. Bad posture leads to potential injury, especially under increased loads. In the dead lift, one of our biggest problems with our sixteen- to eighteen-year-olds is with rounding the spine. If the back is rounded at the bottom position of a deadlift, the spine is not strong. If the shoulders are slouched and the head is down, the spine is not strong. Not surprisingly, we often see our players standing and sitting during the day with a rounded spine. If our players cannot control their spines while standing without and load at all, how can we expect them to flip a switch and suddenly do it properly while pulling 300 pounds from the floor? You can effectively get the desired hypertrophy as the result of stronger muscles or more resilient muscles, but it should coincide with proper movement. “True” or “Athletic” Hypertrophy can be achieved using proper exercise/movement techniques along with proper load and volume.

In order to do this, we attack the spine first. For the lower half, for example, we try to go after correcting the lumbo-thoracic junction before we look to ankle or knee joint correctives. For the upper half of the body, we look closely at correcting the thoracic and cervical spine before trying to increase ‘shoulder joint’ range of motion. We view these areas as the foundations for corrective exercise and implement these concepts in every aspect of our physical preparation; not only in the corrective exercise sessions, but also in movement preparation (stretch), in the weight room and in daily activities as mentioned previously.

**Staff Considerations: Coaching Buy-In Leads to Athlete Buy-In**

It is important to work for an organization with which your values align. Thankfully, I have very similar values and even experiences with my superiors. For example, Rachel and I both had injuries in our collegiate careers in softball and baseball respectively and have both turned our experiences into valuable lessons in our professional careers. Chronic pain is often caused by movement impairment unless there is a history of an acute injury that lead to structural and soft tissue damage. Some medical professionals are in tune with the structural aspect, but not with the chronic movement compensation issues. Their training and background does not address this because the education of movement is often omitted.
from traditional exercise science and medical curriculum. The same consideration holds true for baseball-skill coaches. Some on field coaches either do not understand it or do not see the value. This is a missed opportunity to develop durability and on field performance for a player. It is important that strength and conditioning coaches align themselves with skill coaches as much as possible because we are all trying to achieve the same thing: Movement efficiency. In baseball, we are learning that a higher level of movement efficiency can lead to not only injury prevention, but increased velocity and control as well.

This is why it is important for the strength coach and the sport coaches to work together in this way. If we attack it from all angles, the movement will improve faster and be applied in more repetitions on the field and in the weight room. For example, with the Astros, we have several phrases we use in the weight room that we have learned from the sport coaches. This way, we have consistency in the verbiage and the message that we are conveying. Strength and conditioning professionals should strive to understand on field mechanics and skill coaches should strive to understand strength and conditioning principles.

On a more personal note I would like to comment on our performance staff in the Dominican Republic. In total we have three coaches on our staff that work to implement this message. Geremias Guzman and Miguel Cabrera are vital in helping the organization develop its youngest players. Geremias Guzman acts as our Dominican Strength and Coordinator and has 14 years with the Astros organization. Personally, Guzman has helped make my first year in the Dominican Republic absolutely incredible. He brings a wealth of wisdom to the staff and has an exceptional understanding of how the human body works. I can’t thank him enough for his mentorship.

Education: Setting the Standard and Expectations

The first thing to consider is the Latin American culture in which we work. Most of the players that are at the academy in Boca Chica are signed at the age of 16 or 17 and are hailing from third world countries. They have limited training backgrounds and sometimes limited educational backgrounds. We start at square one, with counting the weight on the bar, proper progression throughout a cycle and covering the technique of the major lifts before each session. We view every day as an educational experience in the weight room and we use our time as such. The start of every day is a planned curriculum in which we are teaching form, progression and even anatomy. Most of the players will be without us during the off season, so information retention is of utmost importance. We may repeat ourselves 10 times in a day so that we know that they are owning the information and not just hearing it and remembering it for the hour that they are in the weight room that day.

Setting the standards upfront is the most important thing you can do for an athlete. If we let players lift extremely heavy weight at first and praise them for doing so, then it will be very hard to convince them later to take the weight down and focus on form if need be. If we teach them progression, technique and physical education upfront and praise them for improvements in their form, then we will create a culture that we want.

Expanding this Culture

We relate movement not only to the weight room, but to everyday activities. Posture is a discussion that takes place in the weight room, during the dynamic warm-up, during lunch, etc. You have probably heard about pushing to pulling ratios. It is generally accepted in baseball that we should have more pulls than we do pushes in order to strengthen the posterior chain. Pushing to pulling ratios essentially aim to adequately balance the human body. Realistically, we have two hours a week to train our players. That leaves us roughly two hours out of a week containing 168 hours to attack the posterior chain during lifts. I believe that the only way to balance the human body is to practice balance in every waking moment of our lives. We can have a great lift where we have the desired 1 push to 3 pulls but then have players report directly to lunch where they spend 30 minutes eating lunch in a position where their shoulders are slumped over thus returning to the dreaded anterior dominant posture. Their body is out of balance. What we do two hours a week in the weight room is negated with more time allocated to poor posture. We try to bridge that gap. We want them to be in a stronger posi-
tion every moment of every day. A spine that is not compressed is going to be healthier and more able to produce force. Whenever I see poor posture, I make a point to tell the athlete. This simply creates awareness. Now the athletes even correct me when I am sitting with poor posture! They yell, "You look like a shrimp!" when I slouch. It becomes a conscious way of thinking. As annoying as it may be to have the athletes give me a dose of my own medicine, it is an indicator to me that the culture is starting to shift. They are owning it and even keeping me accountable.

How to Deliver This Information in the Most Effective Way

Be the change! Share this information with passion and intensity. Accountability is a major component. Actively improve your own faulty movement patterns as a coach so that players can see you attacking your own problems.

Be energetic, because it takes energy to make changes. How do we make it come alive? When you lift heavy weights, it’s good to grunt. You can do the same thing and add grunts to movement activity. Why not? You add value to it when you put emphasis on it. This can be done by creating competition to do the movements correctly. Sometimes I will walk around the complex with a hunchback for fun and reinforce good movement. They laugh and say, “You are loco!” We have fun.

The Results Thus Far

Here’s a list of results we have experienced:

- Assessments show that movement patterns are changing for the better. This is done through culture, not just corrective exercises.
- Players walking around the complex yell at me about my anterior head posture and hold me accountable to fix it on the spot. They also talk to other people, especially younger players entering our system. They coach each other. They are immediately exposed to correct posture and movement, which makes our job easier.
- As a result of us praising movement and form, they are frequently asking for coaches to look at their form during lifts, not just seeking approval for adding more weight. They ask us to look for quality.
- Players ask to see their assessment videos along with feedback.
- Players compete with each other on who has the better squat, not just the weight!
- Players are able to lift heavier weights true to form.

Physical education helps focus on movement. Young kids are getting cell phones earlier, and that results in an anterior posture at a younger age. Learn to live healthy. Decide to implement this culture that values movement, just as we value strength.

More Information Please! Contact Mike at mdmyers@astros.com

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**Reading Research: The Effect Of Intermittent Vest Cooling On Thermoregulation And Cardiovascular Strain In Baseball Catchers**

*Bishop, Stacy Ph.D., CSCS; Szymanski, David J. Ph.D., CSCS*D, RSCC*, FNSCA; Ryan, Greg A. Ph.D., CSCS; Herron, Robert L. M.A., CSCS*D, ACSM-RCEP; Bishop, Phil A. Ed.D.*

**Abstract**

Baseball catchers are exposed to multiple physiological challenges while playing outside during the spring and summer months, many of which deal with recovery and thermoregulation. The purpose of this study was to investigate the effect of intermittent cooling on core temperature, cardiovascular strain, exertion, and recovery during a simulated catching performance in the heat. Six trained college-aged baseball catchers performed in a controlled, hot (35 [°C]) and humid (25% relative humidity) environment in a counter-balanced, cross-over design. Ice vest cooling (VC) was used as a cooling modality and was compared to a control of no cooling (NC). Rectal temperature (Tre), heart rate (HR), rating of perceived exertion (RPE), and perceived recovery scale (PRS) were recorded before and after each simulated inning. All activity took place in a heat chamber, and each inning consisted of catchers receiving 12 pitches in their position followed by 6 minutes of recovery. Nine total innings were performed, and 27 total innings were performed with each of the two treatments. A significantly smaller mean Tre change was seen in VC when compared to NC (0.58 +/- 0.2 [°C], 0.98 +/- 0.2 [°C], p = < 0.01, respectively). RPE was significantly lower and PRS was significantly improved for VC compared to NC (both p < 0.05). Mean recovery HR during VC was significantly lower than NC in the 5th (VC = 84 +/- 8 bpm, NC = 90 +/- 9 bpm, p = 0.04), 7th (VC = 84 +/- 3 bpm, NC = 92 +/- 7 bpm, p = 0.02), and 9th (VC = 85 +/- 7 bpm, NC = 93 +/- 5 bpm, p = 0.01) innings. HR during catching was significantly lower at the end of the VC trials when compared to NC (108 +/- 16 bpm versus 120 +/- 19 bpm, p = 0.02, respectively). VC decreased heat strain, cardiovascular strain, and RPE while it improved perceived recovery in catchers over a simulated three game series performed in hot conditions.
PRACTICAL APPLICATIONS

The application of a heat vest is a simple and legal method of reducing heat strain during baseball catching performance. Results of this study suggest practical use of cooling vests by catchers as well as other position players in baseball. Catchers are not the only position on the field susceptible to concerns of heat illness, and a cooling vest is a relatively inexpensive technology. At every level of competition, baseball is played throughout the warmest months of the year. Heat issues are a growing concern in sports that deal with the elements. Out of every level, professional baseball having the longest season of any sport, spanning the entirety of the warm months during the year. This study suggests using a cooling vest between innings will slow the core temperature increase and reduce the strain on the cardiovascular system, potentially aiding performance and improving recovery. Though a possible positive effect on performance or recovery has been found, the application of intermittent cryotherapy is legal at all levels of baseball. Results of this study showed that intermittent vest cooling helped lower cardiovascular strain by significantly reducing recovery HR between innings and mean working HR in the 9th inning. In a hot and humid environment, the lower core temperature could improve recovery, reduce exertion levels, and reduce cardiovascular strain over the course of a three game series.

Journal of Strength & Conditioning Research:
Post Acceptance: March 20, 2017

Spring Training Nutritional Guidelines—Getting Ready for High Volume and High Eccentric Muscle Loading, Dave Ellis, RD

Learn

Inevitably many baseball athletes are going to wait until the last minute to start working out for spring training which results in all the problems you would expect when you do too much too quickly! Unfortunately for some the insult of all this work on an ill prepared body can result in injury that can compromise their ability to compete at their peak for the better part of the first half of the season.

Spring Planning Considerations:
1) A poorly fueled muscle is a bad shock absorber!
2) A dehydrated muscle is an acidic muscle that is stiff and won’t relax like it should between reps on the field.
3) A muscle with poor antioxidant status is also an acidic muscle.
4) Most certainly a muscle that is carb fatigued is a poor shock absorber during eccentric loads.
5) Protein is also going to be key at each meal during camp to aid in the recovery process that occurs daily from all that eccentric loading.
6) Lastly plan on cooling those wheels and throwing shoulder down after each practice with ice bags or better yet an ice bath.
7) Lastly you want to bank all the sleep possible during spring training as that growth hormone that pulses every time we hit our non-REM phases of sleep is critical for recovery from eccentric loads on the field.

Click HERE to Read Now!
Learn
It has been said everything is in the delivery. The same holds true for the strength and conditioning professional. I constantly remind myself to thoroughly communicate the program goal and objective, content, expectation, performance, and evaluation variables in a professional and appropriate manner to all parties contributing to the strength and conditioning process. That manner may differ and/or assume a different form to establish and maintain an effective and efficient delivery specific to the athlete(s), administration, medical staff, and/or funding agency. It is of paramount importance to keep all program participants ‘on the same page’ to legitimize the accuracy, reliability, and validity of the strength and conditioning program.

Key Points
• Ability to communicate in a concise and professional manner in writing.
• Ability to communicate clearly and effectively on a one-to-one basis with all types of athletes and clients.
• Ability to read, interpret and analyze correspondence, regulations and data to extract appropriate information from them.

Click HERE to Read Now!

In-season Conditioning Template for the Starting Pitchers, John Rewolinski, 6(4):6

Learn
The in-season program is based on several principles that I developed. These principles are based on short duration, sport specific movements that work opposing muscles at controlled speed rather than ballistic explosive work. The core and torso receive special attention. The major league baseball season is long in duration with keeping the player on the field and healthy a top priority. This template can be modified for the collegiate or high school player.

Principles:
A. Specificity of movement
B. Antagonist contractions during in-season
C. Angles and tension at controlled speed
D. Brief, consistent, specific workouts
E. Core/Torso strength program with variation

Presented in Detail
• 5-DAY CONDITIONING PROGRAM FOR STARTING PITCHERS with Exercises

Click HERE to Read Now!

Overtraining in Baseball, Brian Grapes

Learn
One of the advantages of playing collegiate baseball is that the players get Monday and Thursday off. Monday off is a good lift day for the players. This luxury is not found in professional baseball. At the major league level there may be a period of 14 days before a day off. The field players are expected to play at a high level everyday. Because of this players need to know and understand their bodies and what they are going through. In baseball we have what is called the maintenance phase. But this is a misconception when it comes to strength training. The idea is always to gain strength. Whether the load lifted is going up or not the players are still gaining strength because the real goal is to stay strong for the whole season.

Considerations
Making Gains in the Season: The Constant Overload System
As the season progresses, the players, especially position players, are faced with a constant overload situation. The body needs time to recover to repair muscles.
Working with Overachievers

There are players who you have to kick out of the weight room. They want to do more for fear of losing strength. The approach we use is to look at the situation in terms of total volume.

Season Adjustments

The off-season is the time when most of the “traditional” strength and conditioning program takes place. At this time baseball skills play only a small part of the entire training process, so the focus is strength and conditioning development. When spring training rolls around the focus shifts almost exclusively to baseball skills, which is the start of overtraining.

Injury Prevention

The final aspect of avoiding overtraining is to make sure that injury is taken out of the training equation. Research has shown that a well-trained muscle is one that is resistant to injury. If a muscle is well trained and in balance it will be able to handle stress better and avoid injury; however, injury is part of the game.

Speed/Quickness/Acceleration Band Exercises

Part of a Comprehensive - High Intensity Conditioning Program

Ed Dudley, Sports Enhancement Trainer, Omaha Marian High School, Omaha Nebraska

In a previous issue we presented The Kettle Bell Matrix (Net Link: Click HERE to read the article). This issue we present the exercises that are done prior to the Matrix. In our way of thinking we like to keep our program for high school female athletes at a high intensity/short duration level and should be done two to three times per week, max. At the end of the matrix we do some core/abdominals work along with RDL (Romanian Dead Lift) for the hamstring. This is followed by a one to two minute break. Then the athletes do another round. The advanced plays do a total of four rounds a beginner two rounds. I train more college level athletes, as opposed to high school level. These workouts are just too advanced for 90% of high school athletes and I 'dumb them down' accordingly. Exercises shown are from a menu. Sometimes I emphasize one particular movement - and sometimes a combo of two or three movements....often times different for the various sports.

This band program is done before any program we do in the gym including the matrix. Why? Speed and quickness is number one concern in the sports we train. It is a priority. Strength training may or may not help speed work. The band training definitely does.

After the band program we go immediately in the Kettle Bell Matrix. In Soccer and softball there is constant motion with little rest so why would you train in a different manner? In volleyball it gets the at athlete into super shape so the matches become effortless. For some reason female athletes seem to thrive on this type of training.

The Program

Warm-up
1. Side to Sides - 10 reps each side- using a small 8" 'core band', about an inch above the knees. Click HERE to watch demonstration.

2. Alternating Lunge Overheads - 5-6 reps each side. Band is 'expanded' as it passes overhead. This activates the scapula and rotates the shoulder joints.

Go right to speed and quickness,
starting 3/4 speed, working up to full speed as each rep progresses.

Advanced athletes do 4 sets, beginner 1, 2 or 3 sets depending on their level of conditioning and training experience. Four sets last between 25 to 40 minutes. No rest between exercises only the time necessary for set up on the next exercise. Rest as needed between super-sets. Click HERE to watch demonstration.

Speed/Quickness/Acceleration Band Exercises - Do these for one set of 10 repetitions with no rest.

1. Straight Ahead 4 to 10 reps based on the conditioning demands of the sport.
   - 3 step explosion 1/2 speed back to staring point.
   - Get set and explode again.
   Click HERE to watch demonstration.

2. Side Shuffle 3 to 6 reps
   - Short, quick movements. Go back quickly (deceleration).
   - Reverse to other side.
   Click HERE to watch demonstration.

3. Backward Slow Return 4 to 10 reps
   - Use slow return for lower level athletes-safety issue.
   - Can use the slow for a warm-up set before going to fast return.
   - Fast return works deceleration forces and transition of front to back in a quicker pattern.
   Click HERE to watch demonstration.

4. Backward Fast Return 4 to 10 reps
   - Use slow return for lower level athletes-safety issue.
   - Can use the slow for a warm-up set before going to fast return.
   - Fast return works deceleration forces and transition of front to back in a quicker pattern.
   Click HERE to watch demonstration.

5. Angle Run Forward 4 to 10 reps
   - Band placed on upper body to work core.
   - Stand up straight at the top of the sprint and come backwards slowly for maximum trunk activation.
SPEED QUICKNESS ACCELERATION BAND EXERCISES

6. Transverse 3 to 6 reps Reverse to other side.
   - Most under trained and most important movement pattern is all sports.
   - Speed-take time to set.
   - To get more explosive use horizontal resistance that only bands can supply.
   Click HERE to watch demonstration.

7. Crisscross 4 to 10 reps
   - Cross bands at chest.
   Click HERE to watch demonstration.

8. Figure 8s 15 to 45 seconds per movement
   - Forward - Go further beyond the cone.
   - Backward.
   - Side - Reverse to other side.
   Click HERE to watch demonstration.

Go immediately to the Kettle Bell Matrix.

More Information Please! Contact Ed at edudley@omahamarian.org
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