



PERFORMANCE VOLLEYBALL CONDITIONING

A NEWSLETTER DEDICATED TO IMPROVING VOLLEYBALL PLAYERS

Volume 19, Number 6

Building Your Own Dome of Athlete Development

Many of you may have seen, heard of the TV series based on the Stephen King's novel, *Under the Dome*. The Dome created a totally self reliant society beyond the influences of the outside world. In today's world, outside influences can create a chaotic environment that, unless controlled, can impede athlete development. But what if your athletes lived Under the Dome?

Let's take a look. Under your Dome development is defined as practice and competition under the guidance of a single "primary" sport coach (you) with the aid of your strength and conditioning coach. "Primary" is defined as the sport and the coach the athlete has determined as the most influential based on where they are in their development/maturation process and the sport they enjoy/are best at. It is noted that this primary designation can change over time. The strength coach works seamlessly with the primary coach to complement sport development with physical (athletic) development.

Outside the Dome is everything else. This includes training not influenced by or under the direction of the primary coach and his/her strength and conditioning coach. This could include primary sport practice/play Outside the Dome under the direction of a different coach. This could include activities such as going out for a run, pick up games, private lessons, other sport activity, time spent in the weight room, private gyms, school physical education classes, etc.

Completing Your Dome

How can the Primary Soccer Coach best get a handle on this Outside the Dome training? The only way is to bring the parents Under the Dome. How? By providing leadership by detailing how you are going to develop their son/daughter to reach their full athletic potential.

This starts with an annual calendar outlining all activity.

This includes competition/practices, off-season and pre-season conditioning, other sports played, etc. This should clearly present the total workload and most importantly recovery for the entire year.

Armed with the information, present what you feel is necessary adjustment that is in the best interest of their son/daughter. Finally, set goals based on these adjustments and gain a commitment from the parents to stick to. Outside the Dome influences will challenge this plan but by explaining the support of the parents and what the goals agreed upon are, you are in a position to invite these influences to join you Under the Dome. The choice will be yours.

This is something that will not happen overnight. But by establish a program and over time and making it a tradition your Dome will stand strong.

Something to think about.

Ken Kontor

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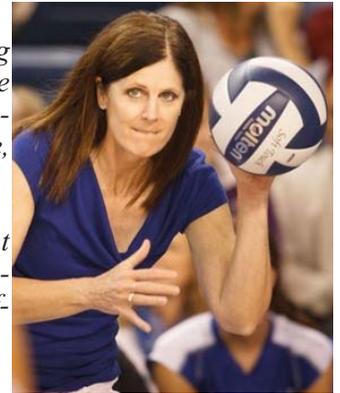
Combining Strength and Movement Specific Conditioning to Volleyball Part 3

Gwen Egbert, Head Volleyball Coach, Doane College

Important Consideration:

This three part series provides the volleyball coach special strength exercises overloading movements and positions specific to volleyball. These exercises do not adequately provide progressive overload which is the basic principle of developing strength, power and muscle. Ideally these exercises should be part of a general base strength program that progressively overload to gain muscle, strength and power. - Ken Kontor, publisher

Head Coach Gwen Egbert joined the Doane College Tiger staff in Spring 2013. Egbert brought a decorated resume to Doane following an outstanding high school coaching career at Papillion-LaVista and Papillion-LaVista South High Schools. She was named the Lincoln Journal Star Coach-of-the-Year in 2002 and 2012 while earning the Omaha World Herald honor in 2003.



Gwen Egbert

Net Link: Read Parts 1 & 2 of this article series [HERE](#).

BGN Fitting it to Your Volleyball Program

T2 Time- When to Do It

Off-season Considerations

This program is ideal for the certain time players can't work with a volleyball in the collegiate setting. We do this as part of our weight training program. We lift for 45 minutes to an hour and do these exercises for 30 to 45 minutes.

In the high school setting, this program can be done in the summer as part of or substitute for weight training.

Pre-season Considerations

Many times programs have only three weeks until the start of fall competition. This program can be done in place of weight training.

Practice Considerations

These exercises can also be part of practice. It is important not to do all the exercises presented, but selected based on the focus of practice. I recommend doing these exercises before practice so that the athletes are fresh and quality results can be achieved.

Practice Focus

Leg/Jumping Work
Defensive Work

Passing Work
Blocking Work

Exercise Activity

Bands and Boxes
Med Ball Step and Scoop/Side to side step
Cone Shuffles
Bands and Cone Shuffles
Med Ball against the wall and toss over net

Symbols to Success Articles preceded by

BGN indicates author believes content is for beginning-level athletes with training age of 0 to 2 years.

INT indicates author believes content is for sport (intermediate)-level athletes with training age of 2 to 4 years.

ADV indicates author believes content is for expert-level athletes with training age of over 4 years.

ODV indicates author believes content is for outdoor volleyball.
NOTE: Training age year is continuous, year-round conditioning beyond just playing volleyball.

R following article indicates the content has been reviewed by the editorial board.

O following article indicates the content is the sole opinion of the author.

Article preceded by a T + a number 1-7 indicate the article is relevant to one or more T's in our 7-T system of program design.

T-1= Training Age (see above)/History

T-2= Time

T-3= Tools

T-4= Teaching

T-5=Testing

T-6=Total Workload

T-7=Team Position

To find out more about Fit to a T program go to:

www.performancecondition.com/ultimate-conditioning-library/volleyball

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Sports Medicine and Performance Commission

T3 Tools

Since all that is required to do the program are cones, bands, medicine balls and boxes these can be easily done on a volleyball court.

T6 Total Work Load- How Long and How Much to Do it

The first consideration is the overall level of team conditioning. As a stand alone program, 30 to 45 minutes would be done by a team in good physical condition.

As far as reps a team in good shape can do as many as 20 reps in the form of four sets of five repetitions. In the case of med ball scoops we do six per side using good technique.

Start with only the volleyball, then work to a med ball and increase the weight of the med ball to about eight pounds which is as heavy as we go. On boxes we start with eight and work up to 12 reps rotating in groups to allow for rest between reps. I recommend three boxes with four at each box.

Also the time before a game is a consideration on how hard you want to go. In college we play toward the end of the week so we could go hard on Monday or Tuesday for example. If the schedule is play Wednesday and Friday you would go heavy on Monday and lighter on Thursday. This could act as recover after the Wednesday game because the day after a game you do more skills work and less jumping work.

Also if the body weight is an issue with the team I have, increase the volume of work (reps) to use as a means to burn calories.

The exercises presented and the program design considerations in this three part series provide the volleyball coach a lot of versatility when used as part of a strength program and movement training opportunities that incorporate important volleyball activities. Good luck! 

More Information Please!

Be sure to get a copy of Gwen's DVD that shows these exercises and more go to:

http://www.championshipproductions.com/cgi-bin/champ/p/Volleyball/Innovative-Conditioning-for-High-School-Volleyball_VD-02859.html?mv_source=kkperfcnd

Contact Gwen at: gwen.egbert@doane.edu

Creating a Volleyball Club Off-Season Strength Training Tradition

Seng Chiu, Dulles Volleyball Club & Rob Rose, President, TrueAP

Seng Chiu will be coaching the first Dulles Volleyball club team in the 2014-2015 season. He is currently the 2014 CHRVA High Performance Youth National team head coach. He also was the head of the CHRVA High Performance Youth National team for the 2012 & 2013 seasons. The team won a silver medal at the USA High Performance Championships in 2012. He also serves on the All-Tournament Committee for the USAV Boys Junior National Championships. This will be his fourth year with the program (2000, 2011, 2012, 2014). He has coached girls' volleyball since 1992 during his sophomore year at the College of William & Mary. Over the last two decades, he has coached at the collegiate, club, and high school levels. His collegiate coaching experience includes being an assistant coach at George Mason University (2009), Hampton University (1996 & 2005), William & Mary, (1994, 1995, 2000, 2007) and the University of Nevada-Reno (1999). In addition to coaching at four Division I universities, he has also coached at two Division III universities: Christopher Newport University (1997) and Marymount University (2002 & 2003).

He was also the varsity head coach at four Virginia high schools: Paul VI (2006), Wakefield (2004 & 2013), Washington-Lee (2001), and Lafayette (1998). He was named District Coach-of-the-Year in 2001 and 1998. Lafayette won its first girls' volleyball Regional title in 1998. His coaching philosophy is to teach players all aspects of the game and guide them to be the best volleyball player they can be. He is CAP II certified as well as CAP I Beach certified.

Rob established his first training program for athletes in 1995. His company, True AP was founded in 2009. He has a BS degree in exercise science from George Mason University. He is a Certified Strength and Conditioning Specialist (CSCS) and Certified Conditioning Specialist (CCS). He is a national recognized speaker on strength and conditioning includes talks for the NSCA, NSPA, Merritt Athletic Clubs, Total Training Seminars, US Lacrosse, Club Industry, Athletic Business.



One of the biggest challenges implementing an off-season strength developmental program into the culture of "always play" club volleyball. It takes teamwork, careful planning and parental "buy in" to make the program a success. Here is one club's successful approach.

PC: How did you improvise and create an off-season in club volleyball?

SC: This is our first year with the program. Our program is unique in the area because we have an off-season program to develop the physical qualities of our athletes. It is difficult to know all aspects of conditioning, so we engaged the services of Rob Rose to act as our strength coach for the program. We trust and listen to him and he has total responsibility and our support.

RR: Volleyball is a year-round sport as it is played today. Because of this, there is no real opportunity to physically develop the athletic skills of the volleyball player, which includes strength. What we see over the year is a lot of overuse injury – a decrease in performance. This decrease is the result of always playing and not having the opportunity to develop and build on a good conditioning base at the start of the season. It is a tall order to revamp the club volleyball culture. After the high school season, we have a window of recovery time followed by a six-week period of physical development with focus on strength. Our goal is to set the stage to not only maintain strength through the season, but to actually improve it. We meet with the parents and emphasize that we not only improve their daughter as a volleyball athlete, but we improve her performance by preventing injury. We emphasize that this is a life-long commitment to gain the support of the parents, which is really important.

PC: You hit a bull's-eye with the fact that parents are under the gun to have their daughters get noticed, and the only way to do this is play more volleyball. You sum it up best by attempting to change the sport's culture. The traditional periodization model has a recovery period at the end of the season, followed by a base strength developmental period in the off-season before the pre-/in-season. How do you create the off-season?

SC: Our high school season starts August 5th and the state championship for high school is November 8th. Our club season starts either November 8th or 9th with tryouts. The athletes have 72 hours to decide which club they will attend. We start on the November 17th and run for 9 weeks, including the holidays. We have an eight-week strength and conditioning program over a nine-week period. Rob is involved in our off-season program during this period.

PC: What is the program you do in the off-season period?

RR: We work with the girls a couple times a week over that nine-week period. There are several days we take off for the holidays and we can build in recovery in that time. The primary focus during this time is not volleyball skills. Strength training and conditioning are priorities. They will work with Seng and some skills for one or two optional days. One day is working individual volleyball techniques in small groups, not game situations. We communicate with Seng what we will work on as priority each week. This is not in terms of general strength training, but specifically what we are doing in jumping, first step and movement training, which are more specific to the game itself. The purpose of this is to reiterate these activities with the skills sessions that he does. We will have a basic strength session and do exercises to gain strength such as the squat, but we will transition into the jump or first step movement training during that session.

A lot has to do with technique for the strength lifts. We avoid stiff legged dead lifts but will do back squats. We prefer doing front squats, but some athletes have technique issues – that is the most important determination of what exercises are put in the program. Our trainer-to-athlete ratio is small enough that we can modify and individualize a program accordingly. Table 1 is a sample program that serves as a model of what we do. One other aspect of our program is that we have Bruce Tran, who is our volleyball jump and movement specialist. Bruce has an extensive volleyball resume as both a player and a coach.

PC: How do you communicate with the athlete about how they feel while doing the program and get a sense of their recovery status? How do you communicate this with Seng?

Week 2 - Day 2								
	Set 1		Set 2		Set 3		Set 4	
Date:	REPS	WEIGHT	REPS	WEIGHT	REPS	WEIGHT	REPS	WEIGHT
Back Squat	8-10		8-10		8-10			
Bent Over Row (Db)	8-10		8-10		8-10			
Incline Push Up	Max		Max		Max			
Single Leg Calf Raise	12-15		12-15		12-15			
Front Raise DB	12-15		12-15		12-15			
Groups of 5 Athletes rotate from Spotting Back Squat - Back Squat - Bent Over Row - Incline Push Up - Single Leg Calf Raise - Front Raise								
Strength Program averages 35-45 minutes								
Strength Program is immediately followed by 45 min. Volleyball specific performance training program.								

SC: We only do volleyball

Table 1

techniques and it should not affect what the athletes do with Rob in the weight room during the first part of this off-season. As we continue toward tournament play, which starts January 19th, we communicate more with Bruce, who is a former volleyball player with experience in volleyball movement and jump training. We combine what we do with what Bruce and Rob do. We talk before each session and decide if modifications are necessary and we also talk about what is coming up in the next week or two. I will also speak with the conditioning coach about what the results of the session were, including who is working hard and who is not.

PC: Rob, how do you communicate with the Seng and the athletes you work with?

RR: Seng is a coach who understands the importance of conditioning. He attends every session and he discusses what we do and plan. He also provides input from the parents. The most important thing is that he supports everything that we do. This communication is important to avoid overtraining, which these athletes can easily do. For some reason, these players decide that they need more beyond what we do for strength and conditioning. This includes extra activity not only in strength and conditioning, but also volleyball. The communication between me, Seng and his staff is to tell the parent, “Here is the plan. This is what we are doing, but in order for the plan to work, we must stick with it!”

In the case of communicating with the players, we find two types of athletes. One does not like to work very hard and complains about various aspects of the program. They may complain of a sore back or they just do not enjoy strength training. We communicate this with Seng and determine if we should modify that individual's program. We also meet with the athlete to gain a sense of how these modifications might take place based on their complaints or injury. The second type of athlete are those who work hard and go all out each session. These are the ones who are motivated to do more beyond the program. We must meet with these kids and emphasize the importance of sticking with the plan to avoid overtraining. These two types of communication with the athlete are built up over time. The biggest concern that I have on my end is with the parent. They may be influenced by another outside trainer or read articles in a magazine or online about training. We emphasize with these parents to trust the process.

PC: Seng, what are your thoughts on this?

SC: We have fostered a partnership with Rob that has created more trust in the program over time. The continuity and established way of doing things goes a long way with the parents. This trust starts hopefully with me and my volleyball coaching staff and carries over to Rob and Bruce.

PC: The description of what you have done is elevated a program of strength and conditioning to a tradition of strength and conditioning. Congratulations on achieving this important distinction! I would like to learn more about this up-and-coming tradition. How does Bruce fit into the program, knowing that he is a former volleyball player?

SC: He educates and communicates to the athletes why we do certain things. For example, why we work on developing a quick first step. He demonstrates it passing a volleyball and how an effective first step allows you to get to the ball faster. The same holds true in the block. Kids learn and train better when they understand the reasons why they do it.

RR: Seng is right on target. I have learned about volleyball dynamics while working with Bruce. He knows the proper position and setup of things like the swing block. It goes full circle from basic strength in the weight room to relating it to athletic movement skill and quickness in performing the volleyball skills and finally to the optimal performance of those skills in game situations. Since Bruce is an accomplished player, the athletes see and know this and it allows for the additional acceptance of the whole program.

PC: How do you measure the results of your program? Do you test?

RR: We test. We start with what we call an “Overall Athlete Rating.” This allows the volleyball coach to combine where the athlete is at in skills and how it matches where they are with athletic skills and performance. We have been doing this rating system for five years, so we have collected a lot of data. Our rating is based on a 20 yard sprint starting from a volleyball-specific ready position. We test first step, acceleration and we do the pro agility, which is the 5-10-5 (**Net Link:** click [HERE](#) for how to do). We want to see if the girls can change direction effectively. The next thing we do that may be a little controversial is a push-up test. We have them go to a position of three inches off the ground, performed to maximum reps. This is a combination of testing upper body endurance and core strength; we feel these two traits are important for the female volleyball player. We also do a vertical jump test off a jump pad, which measures hang time in the air and gives us an overall body explosive power number. The final test we do is the vertical jump using the Vertec measuring device. This measures reach – a very important aspect of volleyball.

We put it all into a rating formula that we came up with and give it to the coaches. We discuss other tests such as baseline strength with Seng. We are currently looking into measuring arm swing and speed. There are a couple of ways of gauging this, but we would like to add it to the Athlete Rating system. There is not a lot of research on arm speed, but it would be interesting to see if it can be improved through a strength and conditioning program. The following are example results of the Athletic Rating see Table 2. The

Name	#	Push Ups	20 Yd-Sprint	Pro Agility	VJ JumpPad	TrueAP Rating	Approach Vertec Jump
	17-175	20	2.75	4.87	23.2	7.10	115

Table 2

first column 17-175 is a tryout number. Push ups are max reps that the athlete performed the proper push up, upper chest down to dome 3" off ground. As long as they do not touch thigh, stomach, knee to ground and entire body drops as chest touches the 3" dome, it counts as 1 rep. 20-yard Sprint and 5-10-5 Pro Agility are in seconds. Jump Pad and Approach Vectec are inches. The Rating of 7.10 is our rating. Our formula was established on past results and what we felt ideal scores should be. See Table 2a for more information on our tests and Table 2b on the our Rating System.

PC: Armed with five years of data, how do you use testing with the parents?

RR: Ironically, the first data presentation was not to convince the parents, but it was presented to sway the coaches. We have worked with over 20 volleyball HS and club teams in the area over the past four years. Seng is one of four coaches who uses what we do as an important part of his overall program for developing players – he gets it. This is the first year we have reached the point of a traditional strength development program in the weight room that includes exercises like the clean. We can present to the coaches where we are as a result of our hard work.

The parents were a different story. We had one player whose parents believed that more was better and engaged the help of a personal trainer beyond what we do. I cannot fault the trainer; he is in a business. The decision is ultimately up to the parent, but the only thing I could do was emphasize that overtraining can lead to injury. The personal trainer should be in position to modify what we do as a group and apply it to an individual. I could ask to meet with the personal trainer to show him what we do so he can adjust and complement it. Thankfully, this scenario is the exception rather than the norm. But the use of data helps in this situation with the personal trainer as well. It is just a matter if will they accept it. This specific athlete did have several overuse injuries over our 5 month training program. I had to modify the program for her which ultimately led to her not getting the results we could have. ⁰

More Information Please!

Contact Rob at: rrose@trueap.com
 Seng at: 703.597.5553 or seng@dullesvolleyball.com
www.dullesvolleyball.com/coaches

Test	Testing Method	Purpose
40 yard sprint and 30 yard sprint	Electric timing pad and hand timer	Starts, acceleration, and mid-distance speed
20 yard sprint	Same	Acceleration, starts and short distance speed
10 yard sprint	Same	Starts and short distance speed
10 yard 4 corner, Pro agility and 40 yard T-drill	Same	Agility, acceleration, quickness and balance
Broad Jump, Vertical Jump and Power Rating	Measuring tape and Electric Jump Pad	Total body power, vertical and horizontal jumping power
8 sec. Hurdle Hop	12 in. hurdle and hand timer	Foot Quickness and agility
Push Ups	Reps to failure	Muscular endurance
Sit Ups	Reps in one minute	Muscular endurance
300 Yard shuttle	Hand timer	Anaerobic energy system, agility, and low level endurance
5-5-10 Yard Shuttle	Hand timer	Agility, linear acceleration

Table 2a: True AP Testing and Evaluation

* While we at True Athlete Performance strive to bring you the utmost in accuracy and reliability with our testing, timing with a hand timer has a standard deviation of +/- 0.2 seconds. In our efforts to provide our athletes with more accurate testing methods we are in the process of acquiring infrared timing sensors to eliminate human error.

True AP RATING	CATEGORY	Level	DESCRIPTION/ RECOMMENDATION
10	Elite Professional	Professional athlete	Advanced 1 on 1 training
9	Professional	Professional athlete/ Division 1 athlete	Professional level athlete 1 on 1 training Advanced footwork and sport specific explosive training
8	Upper Level Elite	Professional athlete/ Division 1 athlete	Upper Level Elite athlete Most advanced group training Sport Specific
7	Middle Level Elite	Division 1 & 2 level athlete	Mid Level Elite athlete Most advanced group training Sport Specific
6	Lower Level Elite	Division 2 & 3 level athlete, Upper Level High School athlete	Lower Level Elite athlete Advanced training group Sport Specific
5	Upper Level Specialized	Upper/ Middle Level High School athlete	Specialized level athlete Intermediate training group Possibly move to advanced group Less sport specific
4	Specialized	Middle/ Lower Level High School athlete	Specialized level athlete Possible intermediate training group Less Sport Specific
3	Upper Level Beginner	Upper Level Youth athlete	Beginner level athlete Basic training group Not sport specific
2	Beginner	Middle Level Youth athlete	Beginner level athlete Possible basic training group Not sport specific Large focus on form/ technique & coordination
1	Novice/Youth	Lower Level Youth athlete	Beginner level athlete Possible basic training group Not sport specific Large focus on form/ technique & coordination

Table 2b: True Rating Breakdown

Elite VOLLEYBALL Performance Digest

Improving Vertical Jump Ability by Applying Speed/Strength Methods to Lower Body Exercises

*Rich White, CSCS, USAV, strength and conditioning coach Northern Lights Junior Volleyball Club, Burnsville, MN
Presented by USA Volleyball Sports Medicine and Performance Commission
Compiled by MJ Engstrom, Head Volleyball Coach, University at Albany, Member USAVSMPC*

Rich has been a strength and conditioning professional for 7 years. He graduated from Gustavus Adolphus College where he earned his Bachelor's degree in Health Fitness and Coaching. He began his career at the National Strength and Conditioning Association where he worked with Colorado College Hockey, University of Colorado at Colorado Springs Volleyball, and a wide variety of tactical and Olympic athletes. Rich then spent one season with the Kansas City Royals organization as a strength and conditioning coach in their minor league system. Currently, Rich is a strength and conditioning coach at Northern Lights Junior Volleyball Club and as of this spring will begin his graduate assistantship as a strength and conditioning coach at Concordia-St. Paul in Minnesota. He is a certified strength and conditioning specialist (CSCS) through the National Strength and Conditioning Association and a certified sports performance coach through USA Weightlifting.



Rich White

Engstrom completed her third season at Albany. She helped guide UAlbany to its third conference championship in the last four seasons and produced the program's first NCAA Tournament victory. UAlbany finished 24-10 overall and reached the NCAA's second round for the first time in team history. Engstrom has also worked with the USA Men's and Women's National Volleyball Teams. She served as an assistant coach with the women's A2 summer program squad in 1999. She is on the editorial board for the International Journal for Volleyball Research and is a member of the USA Volleyball Sports Medicine and Performance Commission.



MJ Engstrom

The USA Volleyball Sports Medicine and Performance Commission has created this column to briefly explain findings from primary research in various fields and extrapolate a pragmatic message that could be a benefit coaches in the practice/competitive environment-something coaches can use.

USA Volleyball Sports Medicine and Performance Commission mission is to serve volleyball coaches and athletes through the assimilation, generation and dissemination of information in the areas of sports medicine and performance and to coordinate future research in these areas.

Explosive movements are required in many sports and are typically performed at high speeds against low levels of resistance, such as the weight and inertia of a volleyball player's body during a vertical jump. In these sports, volleyball specifically in this case, the explosiveness or rate at which force can be applied (trained by lifting light weights explosively), may be more important than maximum force production (trained by lifting heavy weights slowly) (2). Too often coaches and athletes associate the term "strength" only with the force that can be

developed during a slow speed muscle action (i.e. heavy, maximal effort squatting) (1). This is determined by using a one-repetition maximum (1-RM) test in which strength is assessed as the maximum weight the athlete can lift through the complete movement. The development and assessment of this type of strength has received a great deal of research attention and is a common practice used by most strength and conditioning coaches around the country. The problem is, however, pure 1-RM strength is only required in a few athletic endeavors. Most sports, such as volleyball, require strength at much faster velocities (1). Despite that fact, the optimal resistance training methodologies for developing this type of strength seem to not be as readily accepted by a lot of strength and conditioning professionals who work with athletes competing in highly explosive sports. So, I feel it's necessary to explore these methodologies and discuss how they can be practically applied to existing lower body exercise prescriptions and why it's so important to add speed/strength training into your training cycle.

Traditional Strength Training

Arguably the most popular method used by strength coaches around the country is traditional strength training. This method consists of lifting submaximal and maximal weights at slow speeds and its main objective is increasing general strength capabilities of a given athlete. During this period of training you will see general, multi-joint exercises being taught such as: bench press, squat variations, lunge variations, pull up variations, shoulder-press variations, deadlifts and sometimes the introduction of Olympic lifting techniques; all of which are the basic fundamental movements and should be the early foundation to any young athlete who is new to training. That being said, I want to reiterate and make clear how important the implementation of this methodology is early in the training career of young athletes. It is vital that, regardless of chronological age, athletes who are beginners in the weight room master these simple movements and improve upon general strength capabilities before any type of "special" or "sport specific" training be utilized. Contrary to popular belief, using "sport specific" training methodology too early in an athlete's developmental stage will be more detrimental than beneficial. Research has shown that athlete's who are beginners in the weight room and possess low levels of body control and overall strength can benefit greatly from virtually any form of traditional strength training (3). It is only when athletes become stronger and experienced in strength training, that alternative methods need to be explored. Depending on training consistency, genetics, and individual, potential this shift will take place at different points in an athlete's career. It is important to note, however, that research has shown upper echelon athletes (i.e. a 17s or 18s player who has consistently strength trained for a year or more) with adequate general strength levels will stop responding to traditional strength training and will benefit more greatly from methods of explosive strength training (3).

Speed/Strength Training

As I mentioned above, after general strength levels have been achieved (which, again, has nothing to do with chronological age- only with amount of time spent strength training) a more efficient use of the explosive capabilities of the athlete's muscles through the prescription of more special speed/strength training methodologies may offer a much higher training stimulus (3). These training methods are practiced through the implementation of body weight plyometrics, some Olympic lifting variations and explosive movements using very light loads (i.e. squats or squat jumps with weight). As the athlete's body begins to adapt to these new methods of training, it is important to understand that new levels of power will start to be achieved. It is at this point that it becomes essential that athletes continue working on skill mastery and technical execution of sport movements (i.e. approach jumps for hitters). Adaptation to these new methodologies has changed properties of their muscle's explosive capacity. So, focusing on harnessing this newly developed power in a controlled environment will allow the athlete to effectively use and transfer new levels of power in competition. Research has shown that despite proper use and implementation of speed/strength activities, failure to combine them with ongoing technique and movement mechanical practice, new levels of power and speed/strength can actually lead to a decrement in jump height because proper control of the body couldn't be attained (3). As you have heard me say before and will most definitely hear me say again, making sure athletes are moving correctly needs to be the first and foremost priority of strength and conditioning professionals.

Putting it all Together

The nature of the sport, time of the training year, and athlete's training age (amount of time they have CONSISTENTLY spent strength training) and individual needs will all dictate what methods of strength training methods will be most appropriate (3). There is no doubt that this provides new challenges for the strength and conditioning professional and requires them to do their due diligence in tracking athletes and making sure they don't throw generalized, "cookie cutter" programs to whoever walks through their door. I believe that answering the call to this challenge will not only make strength coaches better at what he/she does, but also yield the best possible results for every athlete we get the privilege to train. Research concludes that a very large increase in general, slow strength does not necessarily transfer to a large increase in jumping height. It also concluded that it is necessary to proceed beyond the use of general strength training methodologies into more specialized and specific exercise selections. This becomes exponentially truer as athlete achieves adequate strength levels and becomes more experienced in strength training (3). Understanding these facts as strength coaches should motivate us to adapt and change and do better for our athletes! ●

More Information Please!

I realize I got a little more scientific in this article than I have in the past. So please if there are questions or would

like elaboration on anything I said, please don't hesitate to email me at richardwhite192@gmail.com. For more information on topics such as this one and many more, I strongly encourage you to check out www.optimizemovement.com!

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Nutritional Options While on the Road

Shelley L. Holden, Ed. D, University of South Alabama, Mobile, Al

Shelley is an Associate Professor at the University of South Alabama specializing in teaching graduate and undergraduate Health Education courses in areas such as Nutrition and Hunger. Dr. Holden works with University of South Alabama athletes on nutrition and its effects on athletic performance. Further, Dr. Holden teaches nutrition courses for the United States Volleyball Association Coaching Accreditation Program.



Shelley L. Holden Ed.D

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Last month I wrote about making healthy nutritional choices on a daily basis. The idea of variety, moderation, and balance is also relevant when eating on the road. During the season, players, coaches, and parents may find themselves needing to eat at concession stands, fast food restaurants, and other restaurants. Coaches should try to avoid this whenever possible by planning ahead and having coolers with fluids and healthy food options available or select restaurants in advance that offer many healthy food options. However, this may not always be possible. Eating healthy when on the road is difficult, but certainly is a doable task. The key is being mindful of what is needed to fuel and/or refuel for daily functioning or performance.

Concession Stand

The concession stand is not the ideal place to find healthy options. Therefore, players should plan ahead and pack healthy snacks (See Table 1) rather than eat the options provided at the concession stand. Typically concession stands do not offer healthy low-fat, moderate protein, and high carbohydrate options. However, if one must eat at a concession stand a rule of thumb is to avoid all fried foods. Further, nachos and cheese are not a healthy option for an athlete. Consider a plain hamburger, chicken sandwich, or sub sandwich (without cheese and mayonnaise used sparingly) as a protein source. When selecting carbohydrate choices at a concession stand, athletes should consider fresh fruit, smoothies (made with real fruit and fruit sugars), 100% fruit juices, chocolate milk, sports drinks, and pretzels. Also, athletes must consider what time of the day they are visiting the concession stand. Pre-competition choices must be carbohydrate rich and post competition should take into consideration protein and carbohydrate needs to replenish what was lost during competition. An important consideration post competition is the timing of the food and/or beverage choices. It is recommended that carbohydrate intake be within 60 minutes of competition in order to replenish glycogen stores.

Restaurants

When planning ahead coaches, players, and/or parents should plan their food stops before leaving home. Selecting restaurants based on nutritional value, budget, and location are important considerations. Players' input on the types of foods and beverages they prefer for pre and post competition meal(s) should be given consideration. If travel includes staying in a hotel, call ahead and ask for a list of restaurants near the hotel as well as ask about the availability of refrigerators in the rooms to keep snacks and fluids. Further, determine what breakfast options the hotel offers (hot and cold options, fruits, etc.) as this will also help in the planning process.

Typically ethnic restaurants such as Mexican and Chinese restaurants do not offer the healthiest choices for an athlete. Once a restaurant is selected players must make healthy choices to optimize performance or recovery from competition. Table 2 offers a list of healthy options for an athlete when on the road. Consider baked, roasted, broiled, or grilled options when selecting lower fat options. Also, low-fat condiments and salad dressings are health options. However, if creamier dressings (such as ranch or blue cheese) are selected, ask for them on the side and use sparingly. When eating at fast-food restaurants players should stay away from value meals, and fried chicken sandwiches that are loaded with mayonnaise. Young athletes often select these and they are high fat choices that promote heart disease and do not adequately fuel the muscles. Instead emphasis should be placed on half of ones' plate being fruits and vegetables whenever possible. Quality carbohydrates as well as proteins and low-fat options should be the centerpiece of a healthy sports nutrition diet when on the road.

Players should eat until they are full, and resist the temptation to over consume. However, players must consume enough to support training and recovery. That is, there may be some players that under consume while on the road for various reasons. This can be detrimental to performance so close attention must be paid to this type of athlete to ensure they are consuming an appropriate

number of calories.

Travel is an essential part of athletics and can be nutritionally confusing but sticking to the concepts of variety, moderation, and balance along with being mindful of what is needed to fuel and/or refuel from competition can go a long way to optimizing performance and recovery. 

More information please! Email Shelley at: sholden@southalabama.edu

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Table 1- Convenient Snack Options	
Bagels (100% whole wheat, whole grain)	• Crackers (whole grain, sesame, and graham)
Dry cereal	• Energy bars • Fig bars • Cereal bars
Fruits (Fresh then dried)	• Low fat granola bars • Pretzels
Nuts and seeds (trail mixes with almonds, peanuts, walnuts, sunflower seeds, etc.)	
Sandwiches (chicken, ham, lean roast beef, peanut butter, tuna, and turkey (avoid high fat toppings))	

Table 2 - Healthful Restaurant Choices

Low-Fat Options

- Steamed instead of fried rice (brown rice is preferred when available)
- Bread, rolls (unbuttered) instead of chips (appetizer)
- Salsa or picante sauce instead of guacamole or sour cream • Soft flour tortillas or corn tortillas
- Low-fat condiments and salad dressings • Baked, broiled, roasted, grilled rather than fried

Carbohydrate Options

- Bagels, toast, breads, rolls (100% whole wheat, whole grain) that are unbuttered)
- Pasta with marinara sauce (omit the high-fat cheese sauces and creamy sauces)
- Vegetable pizza (thick crust with peppers, onions, mushrooms, etc.) • Low-fat chocolate milk or skim milk
- Soups (split pea, vegetable, minestrone, bean, chicken and rice, etc.)
- Baked and sweet potatoes (sweet potatoes are a healthier option but neither should be loaded with butter, sour cream, etc.)
- Fresh fruits and vegetables (avoid syrup sauces on fruits and request plain unbuttered vegetables)

Protein Options

- Lean cuts of protein (turkey, chicken, fish, and roast beef). Trim the visible fat or remove the skin where appropriate.
- Plain hamburgers or cheeseburgers (omit the high fat condiments) • Tuna or chicken salad (light on the mayonnaise)
- Eggs • Black, kidney, and pinto beans • Low-fat cottage cheese • Lentils

TIME EFFICIENT PROGRAMING-COMBINING ACL INJURY AND CONCUSSIONS INJURY PREVENTION FOR VOLLEYBALL

Michelle Feairheller MPT, DPT, OCS, CSCS

Michelle is the director of the Adolescent Sports Medicine Program at Kinetic Physical Therapy in Chester Springs, Pennsylvania. She received her Doctorate of Physical Therapy from the University of Scranton and is a multi-sport athlete at the international level. The Adolescent Sports Medicine Program at Kinetic Physical Therapy focuses on injury rehabilitation and prevention, return to sport, and performance enhancement with a special emphasis on the principles of adolescent growth and development. The program was designed by a multidisciplinary team utilizing an evidence-based approach to evaluate and treat the young athlete. Michelle has a special interest in managing athletes with Post-Concussion Syndrome and conditions unique to the female-athlete. She has utilized research to design a program aimed to decrease the likelihood of suffering a concussion in conjunction with an ACL injury prevention program. Please contact Michelle at michellef@kineticptpa.com or call 610-458-6464 with questions.



olleyball is a sport of increasing popularity throughout the United States. Approximately 800 million people in 130 different countries play volleyball.⁹ The most frequent injuries observed in volleyball include ankle sprains, shoulder pain, patellar tendinopathy, and finger injuries.⁹ 50-80% of volleyball injuries are from overuse however many

traumatic injuries do occur frequently.⁹ Although less common in volleyball compared to other high school and collegiate sports, concussions and lower body injuries such as ACL tears do occur. It is estimated that high school volleyball players had a concussion rate of 0.14 per 100 player-seasons, accounting for 1.3% of all injuries in volleyball practices and 4.1% of those reported during games.¹ Concussion and ACL tears are two injuries that remain hot topics in the media and rehabilitation world. These injuries are often severe, resulting in long rehabilitation periods and missed time from participation. These injuries also have the potential to sideline athletes permanently, especially if they are returned to sport too soon. Many programs exist for the prevention of ACL tears but no programs currently exist for the prevention of concussions.

Over 50% of volleyball injuries are preventable especially shoulder pain and jumpers knee. With coach, parent, and athlete education regarding proper warm-up, stretching, cool down, jumping and landing biomechanics, and injury prevention exercises, the risk of these overuse injuries declines substantially. Traumatic injuries are more difficult to prevent although education on proper diving, hitting, jumping, landing, and blocking technique may decrease risk of injury in contact situations. Although many youth sports injuries are preventable, we are missing key factors in preventing them. Over the past decade, a number of ACL injury prevention programs have surfaced including the Santa Monica PEP Program and Sportsmetrics to name a few. These programs are research based and have shown tremendous success. Some club level volleyball teams have begun to implement ACL injury prevention programming into their workouts however the large majority of these programs still have not. Instruction on proper jumping and landing technique make nearly 100% of volleyball ACL tears preventable.

Although volleyball does not have the same occurrence rate of concussions in comparison to soccer, football, or ice hockey, concussions do occur. A study found that the average rate of concussions in girls volleyball is around 0.05 concussions per 1,000 athletic exposures at the high school level and 0.18 concussions per 1,000 athletic exposures at the collegiate level.² Common mechanisms for concussion in volleyball include head contact with the ball, floor, or another player.

Little remains known about concussion prevention. Is this even a possibility? In a recent article written for the Soccer and Baseball/Softball Performance Conditioning Newsletters, the topic of concussion prevention was discussed. There are many strategies which are likely to decrease the chances of concussion in these athletes. Many of these exercises and suggestions seem difficult and time consuming to include in a normal practice routine.

This article includes a research-based program geared towards ACL injury prevention in conjunction with exercises aimed to improve heads-up play to decrease the likelihood of suffering a concussion. Although only a sample of the program is provided, these types of exercises can be modified as part of a normal training routine. The key is to choose tried and true ACL injury prevention exercises with visual tracking, core stabilization, and postural exercises. For more information regarding concussion prevention, please consult the previous article entitled "The Concussion Dilemma".



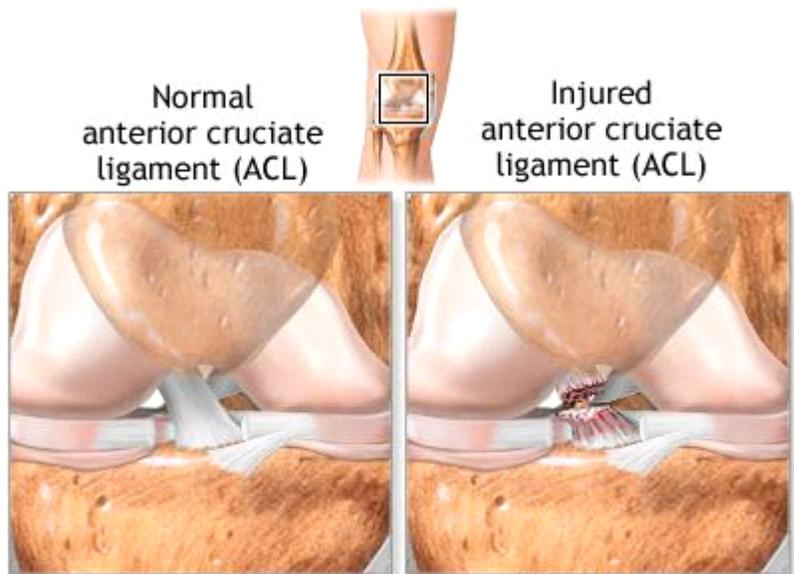
Michelle Feairheller



ACL Tears:

The anterior cruciate ligament (ACL) plays an important role in stabilizing the knee during running, jumping, cutting, and pivoting activities.⁴ The ACL's primary role is to limit excessive movement between the tibia (shin bone) and femur (thigh bone). Additionally, this ligament stabilizes the knee during varus (knee moving outward), valgus (knee moving inward), and rotational movements. An intact ACL also protects the meniscus by decreasing sliding forces through the meniscus as well as limiting wear and tear.⁴ Due to the complexity of its role, recovering from an ACL tear is a difficult process. A full return to sports can take up to one year. Suffering an ACL injury predisposes the athlete to re-injury and osteoarthritis.

Each year 250,000 ACL injuries occur in the United States.⁵ Studies have shown that 20.5% of all knee injuries at the high school level involve the ACL.⁶ Other studies have found this number to be even higher, comprising 50 percent or



more of all knee injuries.⁶ The cost of an ACL injury is substantial. Conservative estimates place the total cost of surgery and rehabilitation between \$17,000 and \$25,000 per injury.⁷ This places a financial burden not only on the individual and the insurance companies, but on the entire health care system, with an annual cost of nearly two billion dollars. To decrease the financial strain, measures must be taken to reduce the frequency of ACL tears and improve the rehabilitative outcomes associated with this injury.

Approximately 80% of ACL tears are non-contact in nature.³ Mechanisms of non-contact ACL injuries may include: landing from a jump, decelerating, or cutting without contact from an opposing player or other obstacle.³ One study found that ACL injuries comprise 2.6% of all injuries across collegiate sports, however, this rate is significantly higher in women's athletics.⁷ Female athletes are four to six times more likely to sustain an ACL injury compared to male athletes.⁸ Nearly 5% of all injuries in women's collegiate basketball and gymnastics are ACL tears and a similar elevated risk is also present in women's lacrosse and soccer.^{5,7} Because the majority of these injuries are suffered without contact, it is possible to prevent them through a well-designed injury prevention program.

The literature discusses a number of factors that contribute to non-contact ACL ruptures including: improper landing mechanics, inability to properly utilize the trunk and posterior chain musculature (hamstring, gluteal, and calf), and dominant leg tendencies.^{3,4} By reducing the impact of controllable factors, progress can be made toward lowering the annual rate of ACL injuries. Female athletes tend to be quadriceps dominant during jumping activities.⁸ As a result, the athlete will land with the knee in an extended knee position and inwardly rotated. This quadriceps dominant landing position is commonly linked to ACL injuries. Utilization of the hamstring, gluteal, and calf muscles during landing can minimize quadriceps dominance, enhance knee positioning at landing, and thus reduce strain on the ACL. The ideal landing position is one with increased hip and knee flexion that softens the landing and places the athlete in a more mechanically advantageous position.⁷ The hamstrings are especially important because they supplement the ACL. By reducing anterior shear forces at the knee during dynamic movements, the amount of stress on the ACL is reduced.

Due to growth and developmental factors, female athletes have difficulty controlling the trunk and activating the core muscles when cutting, jumping, and landing.⁸ Core instability makes it more difficult for a female athlete to control her center of mass, which decreases her balance and control of the lower extremity.⁸ Decreased trunk control leads to an inability to prevent body weight from shifting away from the base of support during athletic movements, thus contributing to an increased risk of ACL injury.⁴

Incorrect landing mechanics:



Correct landing mechanics:

- Sit into your hips (Not overly relying on quadriceps or ligament to stabilize knee)
- Center of mass is equally distributed between both legs
- Angle of shins are parallel to trunk angle
- Do not allow knees to come forward past your toes or cave inward (proper utilization of hamstring, calf, and gluteal muscles)



Female athletes are also more likely to be limb dominant (one leg is stronger than the other). This leads to unequal weight transfer when cutting, jumping, or landing. Unequal distribution of body weight has been observed to increase the risk of ACL injuries. Educating athletes on these factors in addition to injury prevention programs designed to address muscular weakness and altered mechanics, is a crucial component in reducing ACL injuries.

Some factors leading to injury may be beyond an individual's control. By recognizing these factors, strategies can be employed to decrease the likelihood of injury. Some of these include: weather, playing surfaces, hormones (in females), timing and rate of growth, and mechanical disadvantages between genders.

ACL injury prevention programs are 70% effective when implemented correctly.⁹ However, no concussion prevention programs have been designed and field tested. The Adolescent Sports Medicine Program at Kinetic Physical Therapy has created an evidence-based ACL Injury Prevention Program designed to decrease the likelihood of ACL injury while simultaneously training

for improved postural awareness, visual tracking, neuromuscular control, strength, balance, and correction of jumping and landing mechanics to also decrease the risk of suffering a concussion. The program was designed with limited equipment to allow for easy completion and increased athlete compliance. Like with any program, compliance is of the utmost importance. Without consistent completion, it is difficult to develop the necessary strength, balance, and proprioception needed to reduce the likelihood of an ACL injury and concussions.

This article includes a research-based program geared towards ACL injury prevention in conjunction with exercises aimed to improve heads-up play to decrease the likelihood of suffering a concussion. Although only a sample of the strengthening portion of the program is provided, these types of exercises can be modified as part of a normal training routine. The key is to choose tried and true ACL injury prevention exercises with a special emphasis on visual tracking, core stabilization, and postural exercises. Always remember to include a baseball or softball specific dynamic warm-up, plyometrics and agility exercises, and cool-down stretching as part of all workouts. Please contact Michelle Fairheller with questions.

ACL and Concussion Injury Prevention: Strengthening & Postural Awareness Program

Strength training: The strength training portion of the ACL and concussion injury prevention program is geared towards strength, endurance, and activation patterns of the hamstrings, glutes, and core with special emphasis on visual tracking. Most ACL tears result from poor timing between the hamstrings and quadriceps as well as poor knee control due to core and hip weakness. Most concussions occur due to contact with another athlete or object with poor body control. Improving postural awareness and control including the hip, knee, spine, shoulders, and neck may assist in preventing ACL tears and concussions.

Phase 1: Complete this portion during weeks 1 and 2

Glute Bridge with Chin Tuck and Curl

Lie on your back with knees bent. Squeeze your glutes and relax your hamstrings. Drive through your heels and bridge up off the ground by using only your glute muscles. Do not arch your low back. Hold for 5 seconds at the top then lower back down.

When you gain control of this movement, hold a medicine ball/baseball straight up overhead. As you bridge up, keep your chin tucked. Gently curl your head up off the floor while maintaining the tuck. Push the ball up towards the ceiling and move it slowly from side to side while following with your eyes. Uncurl your head but maintain chin tuck until your head is back on the floor. Complete 3x15.



Mini-band Walks with Visual Tracking

Place a mini-band around your ankles or above your knees. Squat down and reach your arms straight out in front of you. You can hold a weighted object or ball to increase the difficulty.

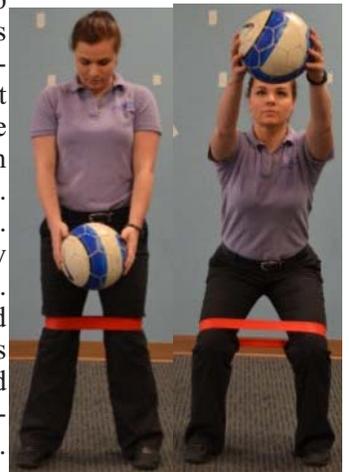
Your eyes should follow your hands throughout the movement. Take a small step to the right with right leg. Rotate trunk to the right. As you rotate back to the center, take a small step to the right with left leg. Perform 10 steps to the right and 10 steps to the left. Complete 2 laps.



Squat with Lift and Visual Tracking

Place a mini-band just above your knees.

Stand with feet hip width apart and toes pointed straight forward. Pull knees out slightly against the band. Sit hips down and back into a squat. Keep trunk upright. Make sure knees stay in line with your feet. Do not let the band pull knees inwards towards each other and do not let knees go forward past your toes. Pause at the bottom.



As form improves, place arms out in front of you holding a ball. As you squat down, slowly raise your arms up to shoulder height. Your eyes should follow your thumbs at all times with chin tucked. Complete 3x15.

SLDL with Reach and Visual Tracking

Hold a ball or weight in your hands. Your eyes should follow the ball throughout the movement. Perform a single leg deadlift and reach arms up to shoulder height. Pause for a moment and then lower arms back down and stand up tall. Complete 2x15 on each leg.



Modified Plank with Visual Tracking

Start in a modified plank position with back flat and abdominals drawn in. Reach one arm straight out in front of you. Pause for 3 seconds and then switch arms. Your eyes should follow your moving hand. Try not to rotate hips or move your trunk. Complete 3x8 reaches on each side. Progress to a full plank position when this becomes easy.



Modified Side Plank with Visual Tracking

Start in a side plank position with top arm straight up. Reach your arm as far as you can underneath and behind you. Slowly rotate back up to the start position and repeat. Your eyes should follow your moving hand. Complete 3x10 rotations each side. Complete this in a full side plank position when this becomes easy.



Phase 2: Complete this portion during weeks 3 and 4

Single Leg Glute Bridge with Trunk Rotation and Visual Tracking

Start on your back holding a ball above your chest with one knee straight. Lift hips up into a single-leg bridge. Keep thighs parallel and hips level. Slowly rotate arms slightly to one side and then to the other side. Make sure your eyes follow the ball. Bridge back down and repeat. Complete 2x8 on each leg.



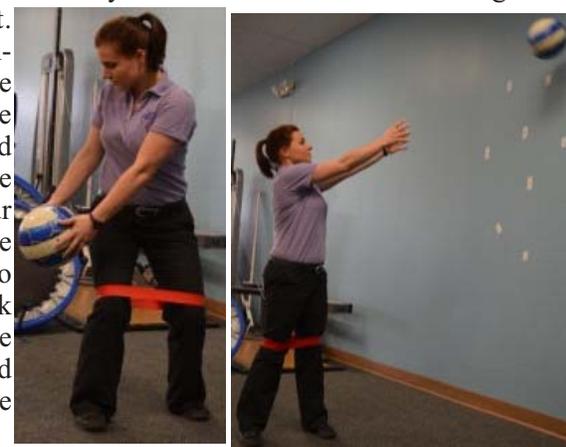
Single Leg Lifts and Visual Tracking

Stand on one leg holding a weight or a ball. Your eyes should follow the object throughout movement. Squat down and reach towards the outside of your stance knee. As you stand up, draw the weight into your chest and press up and diagonal to the other side. Complete 15 on each leg.



Diagonal Ball Tosses + Visual Tracking

Stand perpendicular to a secure wall with a (weighted or un-weighted) ball. Your eyes should follow the ball throughout the movement. Squat down reaching the ball to the side of you. Drive your hips to stand up and throw the ball across your body. Catch the ball and allow it to lead you back down into the squat position and repeat. Complete 2x8 on each side.



Walking Lunges with Rotation and Visual Tracking

Start holding a ball or weight close to your chest. Your eyes should follow the ball throughout movement. Lunge forward, dropping hips straight towards the floor. As you stand up, draw your rear leg up until you are in a single leg stance with hip flexed to 90° (knee up, toe up). Rotate your trunk towards your flexed leg. Rotate back to the center and step forward with your other leg. Repeat this motion for 10 steps and complete 4 laps.

Overhead Throw + Visual Tracking

Get into an overhead throw stance holding a (weighted or un-weighted) ball overhead. Your eyes should follow the ball throughout movement. Throw the ball forward, either to a partner or a secure wall. Be sure to draw abdominals in and control the throwing motion. Complete 3x8 throws.



Blind Tosses with a Partner

Stand facing away from a partner. When your partner yells “GO”, you are going to jump and perform a 180° turn to face him/her. Your partner is going to throw the ball at you when you’ve landed. Catch the ball and throw it back. Make sure to follow the ball with your eyes. Jump back to the start position. Complete 4x6 jumps/catches.

****This is a sample of the strength and plyometric training portion of the program only. A good ACL and concussion injury prevention program must include a dynamic warm-up, strength training, plyometric training, jumping/landing mechanics, and static stretching. ****

This program was developed by Michelle Fairheller PT, DPT, OCS, CSCS, Kristyn Kauffman BS, and Greg Macionsky ATC, 2014.

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More Information Please! Contact Michelle at michellef@kineticptpa.com for more information on designing a complete program.

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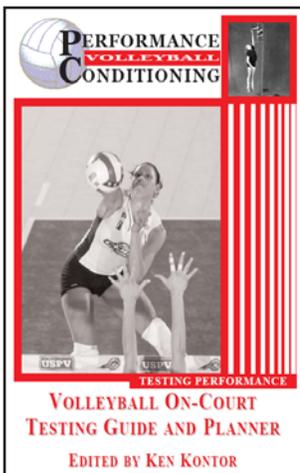
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- **Volleyball On-Court Testing Guide and Planner** book to determine team and individual volleyball-specific conditioning needs and measure your program's progress.
- **Off-season Volleyball Home-Gym Workout Training Cards System** designed to develop strength/stability and power developed in the off-season.
- **Pre-season Volleyball Home-Gym Workout Training Cards System** designed to maintain strength/stability and power developed in the off-season and increase on-court speed, quickness, footwork, agility and jumping abilities prior to the start of the season.
- **Off-season and Pre-season Exercise Technique DVDs** designed to show you how to do all of the off and pre-season training card system exercises.
- **3-Step ACL Injury Prevention Program for Female Athlete Home-Gym Workout Training Cards System** designed to close the "training gap," a leading risk factor in the high number of ACL injuries experienced by the female volleyball athletes.
- **4 Training Logs** to design and record your program.

Complete On-Court Volleyball Conditioning Kit Instructions

Congratulations on choosing this versatile kit, designed to allow you to develop step-by-step a comprehensive volleyball-specific conditioning program right on the volleyball court to enhance performance and reduce the chance of injury.

STEP #1 Create a Testing Program
Start by establishing your own testing program with the Volleyball On-Court Testing Guide and Planner. It comes with complete instructions.

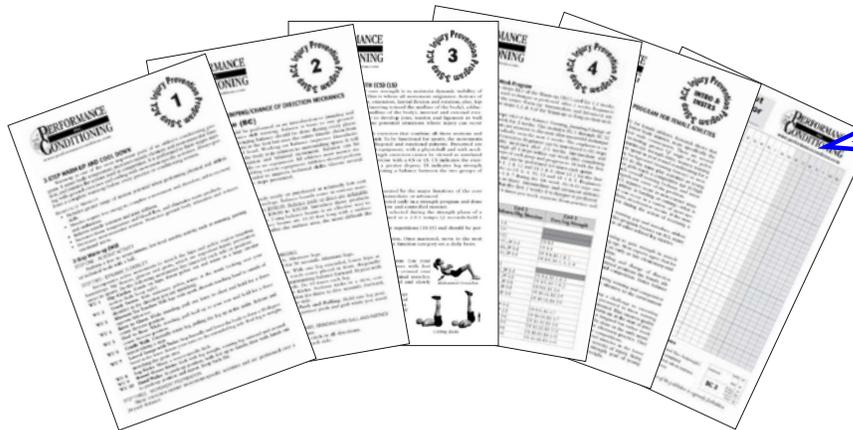
Step #2 Choose the Training Cards Based on the Time of Year and Player Needs
Your kit contains three sets of training cards: Six week Pre-season Speed, Footwork, Quickness and Agility Program SFQA, 12 week Off-season Strength, Stability and Power Development Program SSPD and 3-Step ACL Injury Prevention Program for Female Athletes. It is recommended that you start with the off-season series to build player strength and power base for the season ahead. This is important for two reasons: injury prevention and laying the foundation to improve the volleyball athlete's skills of spiking velocity, foot speed, quickness, agility and jumping ability. If you work with female athletes and to enhance the injury prevention of the off-season program it is recommended selecting exercises for the ACL Injury Prevention set Balance Training Jumping/Change of Direction in addition to the off-season cards. This progression starts with balance exercises leading to jumping change of direction learning progression and ending jumping mechanics. If athletes are just starting out on a fitness strength and conditioning program you may choose to start with the ACL Injury Prevention program then move into the off and pre-season program cards.

As players build on the foundation laid in the off-season choose exercises from the Pre-season Speed, Footwork, Quickness and Agility Program SFQA. Focus shifts to converting strength and power to improved spiking velocity, quickness, agility and jumping ability, which leads to improved volleyball.

The ACL off and pre-season cards are intended to provide you with a means of how you can use in designing your program. The equipment used is portable to be done right on a volleyball court without having the need to access a gym.

DVD demonstrates all the exercises on the Six week Pre-season Speed, Footwork, Quickness and Agility Program SFQA and 12 week Off-season Strength, Stability and Power Development Program SSPD cards.

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- 12-week Off-Season Program - Strength Stability and Power Development (SSPD).
- 4 DVDs showing most Pre & Off Season exercises.
- ACL Injury Prevention Program.
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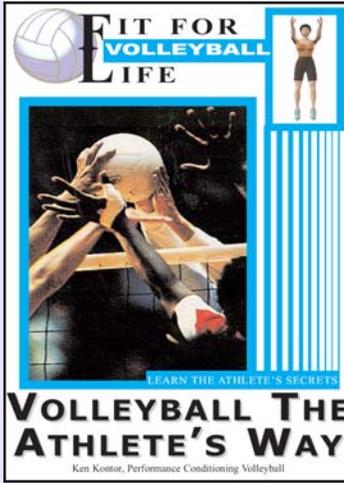
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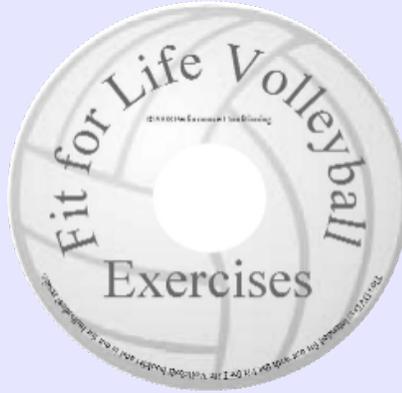
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Flex Day Training Log for

Name: _____

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Date/Flex Day Goal	Mon	Tues	Wed	Thur	Fri	Sat	Sun	Mon	Tues	Wed	Thur	Fri	Sat	Sun
Exercise/Course														
Distance/Reps/Time														
Weight														
Sets														
Rest														
Distance/Reps/Time														
Weight														
Sets														
Rest														
Distance/Reps/Time														
Weight														
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Weight														
Sets														
Rest														
Distance/Reps/Time														
Weight														
Sets														
Rest														
Distance/Reps/Time														
Weight														
Sets														
Rest														

Instructions

1. Enter Date/Flex Day Goal
2. List exercise/skating course (see Chapter 4, i.e. CS3-seated row)
3. Enter # of reps, time, or distance
4. Enter weight used (over-bodyweight)
5. Enter # of sets completed
6. Enter: rest between sets, intervals or exercises
7. Go to next exercise

Exercise Course: _____ Date/Flex Day Goal: 7/6

Day: _____ L.P. _____

Reps: _____ Weight: _____

Rest: _____ Rest: 30

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