

BOILER PUMP

THE OFFICIAL NEWSLETTER OF PURDUE SPORTS PERFORMANCE

Issue #11: December 2014

Inside the Huddle

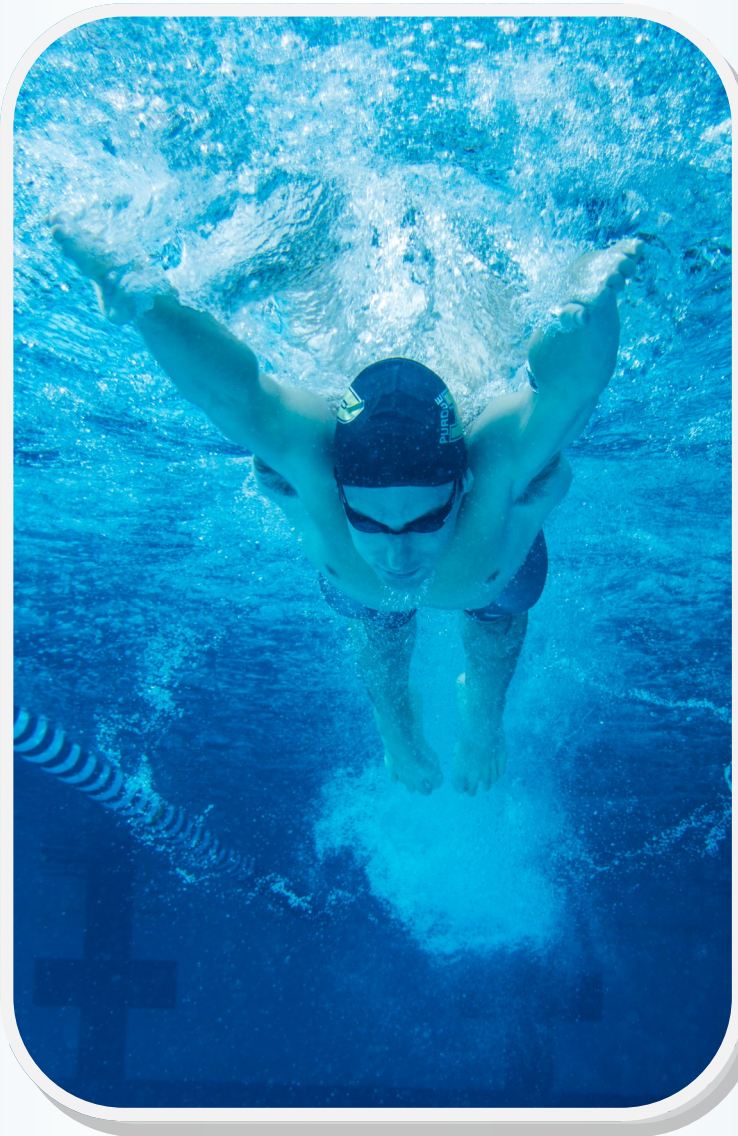
***with Men's and
Women's Swimming***

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Stress!

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Inside The Huddle

Coach Geib shares an overview of women's swimming sports performance

Women's Swimming

Here is a peek at the life of a Purdue swimmer in the weight room, from the perspective of Coach Geib!

"Every week I meet with Coach John Klinge and look over the training plan for the week, and every week I am amazed at the amount of work the team puts into the water. I will put the demands of college swimming up against any sport. On Tuesdays and Thursdays, when the ladies step in the weight room, they already have been through two grueling practices that day and to their credit you would never know it. The team enters the weight room with energy and enthusiasm, and after a brief attack of the fueling station, they are ready to set fire to another training session!

The workout always starts with a player led warm up. The team has done an excellent job of taking ownership in this responsibility, and we are blessed with great leaders in the weight room such as **Rhiannon Sheets** and **Alex Todd**, who have made it happen. After the warmup, we perform our major lower body movement of the day, usually a deadlift or squat variation. The team has made great improvements in lower body strength over the years, highlighted by **Francesca Marr** and **Carly Marshall's** daily jaw-dropping performances under the squat bar.

After lower body work, the team moves on to a crushing series of pull-ups. Based on the muscular demands of pulling the body through the water, pull ups have become our No. 1 strength training tool for swimming. I think the team has a love /hate relationship with pull-ups (leaning more towards hate), but the toughness we approach them with is commendable. To paint a picture, the last pull-up workout the ladies conquered consisted of three sets of 22 reps. Intense? Absolutely, but with some of our ladies breaking the 30 pull-up barrier (shout out to **Anji Li**, **Meagan Lim**, and **Kylie Vogel**), the challenge has to stay real.

After surviving the pull-up gauntlet, the team moves on to a series of accessory exercises that support swim specific performance, focusing on strength and muscular balance in the core, upper, and lower body. During this part of the lift, we use a lot of unique exercises for swimmers, but also traditional favorites such as bench press (**Emily Fogle's** time to shine). Lots of protective shoulder work and postural training exercises also are included to focus on injury prevention. We finish the workout with stroke specific training (exercises unique to each athlete's swim events) or a team circuit consisting of battle ropes, medicine ball exercises, boxing and more. The workout concludes with a team breakout on our core values or on special occasions a motivational story.

Special thanks to the entire swimming staff for its support in the weight room, our athletic trainer **Stephanie Leech**, sports nutritionist **Christine Steinmetz**, assistant strength coach **Jon Brinson** and intern **Stephan Certa** for helping to make the swim performance program the best it can be! Most of all thanks the team members for their hard work and dedication to training. Light a Fire this season!"



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Inside The Huddle

Coach Becker goes inside the huddle with Jan Karel Petric

Men's Swimming

Tell us a little about yourself?

I am a senior in movement and sport sciences with a focus on pre-med. After graduation, I want to proceed to medical school, somewhere in the U.S. In my swimming career, I've been swimming multiple different strokes and distances. But at Purdue University my specialties are distance events. Those include 400 yards Individual Medley, 500, 1000 and 1650 yards freestyle. Sometimes I also do 200 Butterfly, Backstroke or Freestyle.

Describe a typical training week for you (swimming and weights).

The week starts on Monday with a morning swimming practice. In the afternoon, we lift weights and then head to the pool for our afternoon practice. Then do this every day Monday - Friday, with weights just 3x/ week on MWF and Wednesday morning off practice. We finish the week with Saturday morning practice. Overall, we have three weights sessions and five morning and afternoon practices in a week.

What time of year is the most strenuous for men's swimmers?

Our competitive seasons starts in October and ends in March, which means that for six months we are practicing the way I described previously. But during the Christmas break we usually have two practices every day, including Saturdays and sometimes Sundays. Practices also are longer and harder. Since there is no school to worry about we can focus on swimming only.

What do you view as the particular physical needs of your event?

Since my events are from less than two to more than 15 minutes long, I cannot point out only one physical need for them. But overall these events are all considered to require a lot of endurance and high aerobic capacity. Therefore I think in order to perform at the highest level in my events, you have to have a great aerobic capacity, but also being able to recruit fast-twitch muscle fibers.

From a physical standpoint, what do you view as important for the training of swimmers?

As mentioned before, the most important physical training in mid-distance and distance swimmers would be working on aerobic capacity. But in sprinting events the aerobic capacity is not that much of a need and therefore they work mostly on explosiveness, powerful strokes and anaerobic system.

What is your favorite exercise to perform in the weight room, and why?

My favorite exercise in the weight room is the barbell rollout. When performing it correctly it requires you to stimulate every single muscle of the body. It is a great core exercise and at the same time it simulates movements we are performing in the water.

What is your least favorite exercise to perform in the weight room (if any)?

My least favorite exercise is probably bench press, because I had bad experiences with it in the past. Years ago I had my both shoulders injured, and this exercise is the one that was giving me the most trouble. I'm getting a lot better at it, but I still feel uncomfortable and not very confident doing it.

Tell us about the pre-meet activation workout the men's swimming team does before each home meet?

We've been doing pre-meet activation weight for the past two years now. I think it's a great way to distress us from regular weights lifting, but at the same time it activates us before we jump into the water for our pre-meet warm up. I've heard nothing but positive feedback from all the guys on the team.





Sports Science Report

Stress and the Student-Athlete



A Former Student-Athlete's Perspective

By Coach Spencer Dawson



I've always said as a student-athlete there was no amount of napping or singular days off that reduced my level of fatigue to anything less than simply being tired. It wasn't until I hung the cleats up for good and the practices stopped, the meetings ended and the film quit running that I finally regained some semblance of a full tank of gas. The idea that me, a non-starter, who was afforded an academic course load that

preached good nutrition, a sound understanding of rest and recovery, and proper implementation of training programs could be so mentally and physically exhausted has always been astounding to me. Furthermore, if I was so drained what must our starting left-tackle who took 60-plus snaps per game, which included a constant barrage of physical punishment from the opponent's best pass rusher in addition to the accumulation of snaps, pass pro's, and run game blocking from four practices a week be feeling like after four years? However, as a strength and conditioning professional in college athletics we see this phenomenon every day: athletes, from starters to practice players, all complaining of some level of near constant fatigue. I believe this gamut of mentally and physically tired athletes warrants a discussion on the common stressors which fatigue our athletes and ultimately impact their performance.

What are the Common Stressors Experienced by Athletes?

- **Physical Demands of Game/Practice** (Kraemer et al., 2004)
- **Offseason, Preseason, and In-season training** (Kraemer et al., 2004)
- **Class/Academic Schedules**
- **Personal Relationships – Negative Relationships, Interactions and Comments** (Anshel 2005)
- **Meetings, Film, Travel – Everyday Schedule Issues** (Kraemer et al., 2004) (Hanton et al., 20012)

What is the Impact of Stressors on Performance?

Rather than one individual stressor hindering performance, the accumulation of these stressors may be the real culprit. A study performed by Kraemer et al. (2004) indicated that the combination of stress from in-season practices and games following high intensity preseason training created decreased testosterone levels and increased cortisol levels in NCAA Division I male soccer players throughout the course of a competitive season. This testosterone to cortisol ratio placed the body in a catabolic state limiting the athlete's ability to recover throughout the season (p.121). The catabolic state appears to have limited the body's ability to produce force which manifested itself via slower sprint times and decreased vertical jump heights (Kraemer et al., p. 124-125). Ultimately, the ability to run and jump is paramount to performance. The athlete with the higher vertical will have an advantage when going up to catch a potential touchdown pass or deflect the game winning three point attempt. Additionally, the faster athlete may be able outrun the throw to first after a ground ball.



Sports Science Report



Stress and the Student-Athlete, cont'd.

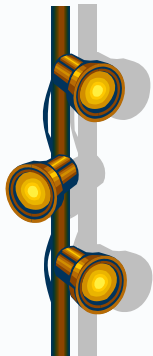
How Can the Strength and Conditioning Professional Help?

As previously mentioned, multiple studies have indicated a wide array of stressors from physical to interpersonal to mental that afflict the student-athlete on a daily basis. Based on the study by Kraemer et al. (2004), it stands to reason that each individual stressor may very well have an accumulative effect on the athlete leading to increased fatigue and decreased performance. As strength and conditioning professionals, we have a responsibility to use our resources to help combat these sources of stress and the associated levels of fatigue. So how can we help? First and foremost, we must use our expertise to develop sound training programs based on principles of proper manipulation of volume and intensity, exercise progression, progressive overload and recovery in order to build up our athletes from a sound foundation to ultimately maintain their strength and health over the course of the competitive season. Secondly, we need to make every attempt to attend sport practice. Watching how our athletes are moving and how intense a practice is can give us an idea of whether to push the pace of a training session or pull back to emphasize recovery. Thirdly, build relationships with your athletes, trainers and coaches. These relationships foster an open line of communication that enables you to build an appropriate plan for workouts based on feedback from all parties involved in training the team.

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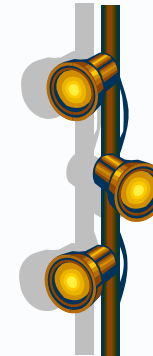
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This month's sports science topic comes to you from Coach Spencer Dawson.



Coach Spotlight:

Sports Performance Associate Jonathan Brinson



Tell us about where you're from!

I was born in Kansas and raised in Georgia. Places I've lived: Oklahoma, Texas, Alabama, Michigan, California, Hawaii, North Carolina, South Carolina, Washington D.C., Germany and Japan.

How did you decide that you wanted to become a coach?

Interacting with coaches all my life taught me about the life style, and I didn't want the stress of being a sport coach. I loved the relationship that I had with our athletic trainer/ strength coach.

What is your favorite part about being a coach?

Observing, impacting and enjoying the process for a student athlete. Being washed up means I live vicariously through our athletes.

Who has influenced you the most throughout your career?

Every coach that I have worked with has had some influence on me. But the biggest probably came from Michael Doscher at Valdosta State University.

What is your favorite quote?

"Under pressure you don't rise to the occasion; you sink to the level of your training. That's why we train so hard." U.S. Navy

What is your favorite book?

I like the Harry Potter series.

What is/are your favorite sport(s)/team(s)?

My favorite sport is basketball. I don't do favorites with sports teams; they each have their own unique elements.



What are your hobbies / interests outside of work?

Netflix ... and I collect sleep.

What are your favorite TV shows/movies?

Breaking Bad, The Walking Dead, Greys Anatomy, New Girl, The Following, OITNB, House of Cards, The 100, Dragon Ball Z. The list goes on; I can't pick one.

What is your training philosophy?

My philosophy is based around the basic principles of strength training for athletes. Ground based, multi-directional movements and conditioning geared toward developing energy systems needed in each individual sport, which is the structured piece. My philosophy evolves year-to-year as I grow, I have an educational background, so my programs change based on the response I get from the student-athletes and coaches, physically and mentally. At the end of the day, I look to have each athlete available (injury free) and performing at a higher level than their competitors.

What is your favorite type of training session or favorite exercise?

Whichever session or exercise that I can make competitive. If I can jump in, even better.

What song of yours is considered "most played"?

So Fresh So Clean – Outkast

Tell us something about your experience as an athlete that helps you to be a better coach.

I walked on to the basketball team at my school after taking advantage of the opportunities presented to me. As a coach, I either want to provide those opportunities or help each person realize those opportunities as they present themselves.

We understand that you're quite a cook. What are your favorite foods/meals to make?

I make a mean omelet. Mean.

Boilermaker

SPORTS Nutrition

Immune Boosting Nutrition

Good Nutrition is essential for a healthy immune system. Include the following nutrients in your diet each day to help lower your risk for illness, especially during flu season!

Protein: Part of the body's defense mechanism, necessary to build antibodies

Sources: lean meat, seafood, poultry, eggs, beans, peas, nuts and seeds. Many foods high in protein also are high in zinc, which also helps with healing and immunity.



Vitamin A: Keeps your skin, GI system, and respiratory system healthy

Sources: sweet potatoes, carrots, red peppers, apricots, kale, spinach, eggs and fortified milk.



Vitamin C: Stimulates antibody formation, which are made when your body senses germs in order to help destroy them

Sources: citrus fruits such as oranges, grapefruits, bell peppers, papaya and berries.



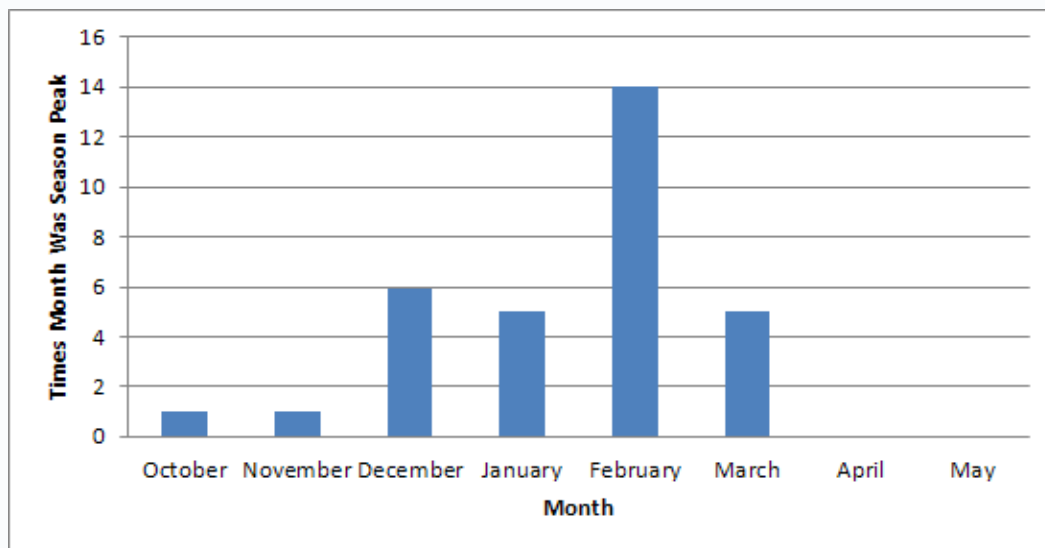
Vitamin E: A powerful antioxidant, which helps keep your cells healthy and wards off damage

Sources: fortified cereals, seeds, almonds, peanut butter, spinach and avocados.



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Peak Month of Flu Activity, 1982-83 through 2013-14



As the weather gets colder, flu season is rapidly approaching! While some flu outbreaks can happen as early as October, most flu activity happens between December and February. Preparing early for flu season can help you stay healthy and competing at a high level.

Pair this side dish recipe with your favorite lean protein to power pack many immune-boosting nutrients into one meal!

http://www.eatingwell.com/recipes/broccoli_with_caramelized_onions_pine_nuts.html



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Hand washing is a very effective way to reduce the spread of illness and keep you in the game!

Wet your hands with clean water and apply soap. Lather for 20 seconds. Rinse with water and dry hands using a clean towel.

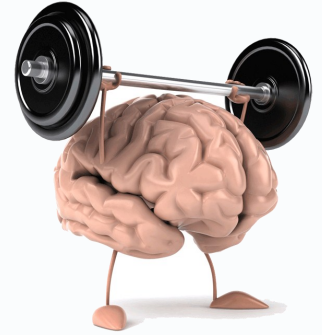
Make sure to always wash your hands prior to eating, before preparing meals and after workouts to reduce germs.



Mental Conditioning

Developing Pre-Competition Mental Routines

by Dr. Chris Carr, Sport Psychologist



One of the key elements to playing your best game is to be mentally ready for the competition. Unfortunately, most athletes don't work on mental readiness, and this is when poor performance can occur ... the ability to focus, concentrate, regain composure, and maintain discipline is related greatly to how much the athlete has PREPARED for the mental demands of the game. One good tool is to have a consistent pre-competition mental routine, where you go through the same mental preparation for each practice, pregame, play and game.

What is a pre-competition mental routine?

I encourage athletes to begin their routine the night before each competition. Whether it is relaxing, listening to music or watching an inspirational movie, you should do close to the same thing each night. The goal is to visualize your best performance for the next day, including seeing yourself recover from mistakes. On the day of the competition, your true focus should begin in the morning. You should visualize yourself executing effortless performance ... use your mental focus to see and feel your best athletic movement in your mind. En route to the competition site, you may sit in quiet and allow your breathing to slow and focus on positive thoughts. Or you may listen to music that helps inspire a positive feeling, while at the same time visualizing in your mind perfect execution of your performance. While getting dressed, use this time to feel like you are preparing for a great performance, with everything feeling exactly how it should feel. During this time, you should also focus on slow, deep breathing to help you relax and conserve energy.

When you get to the stadium (home or away) and begin your warm-up, imagine your mental focus becoming clear and attentive to the field, the climate, the "team" atmosphere and yourself. Focus on the feeling of speed, strength, quickness and perfect movement. When the competition is about to begin, you should again resume slow breathing and think of a "cue word" that helps you to focus on your best performance. Right before competition begins, take a last deep breath ... then begin your performance ... ONE PLAY/RACE/EVENT AT A TIME!

This routine will help you to keep mentally focused before, during and after a competition. You will not focus on external distractions, because your focus will be on your total optimal performance. You will recover from mistakes easily and will regain focus and intensity during any break in action.

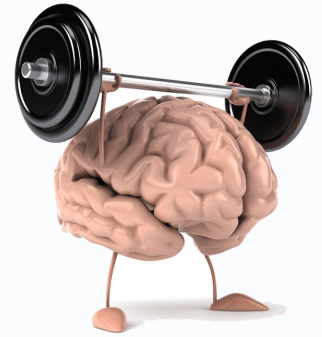
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Mental Conditioning

Developing Pre-Competition Mental Routines, cont'd.

by Dr. Chris Carr, Sport Psychologist



Tips for a Pre-Competition Mental Routine

- *Begin your imagery of the game the night before; visualize success
- *Focus on deep breathing during the ride to the venue
- *Use music or quiet thought to visualize great performance
- *Keep your thoughts on the present ... ONE PLAY AT A TIME
- *When you have distractions in your mind, find a way to “release” them by writing it down and tearing it up ... some type of release
- *Write down a “cue word” (on your wrist, for example) that you associate with your own optimal performance.
- *Use the same routine before every practice or competition
- *Love what you do ... do what you love!

“We are what we repeatedly do. Excellence, then, is not an act, but a habit.” -Aristotle

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Happy Holidays!



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