Performance Guidelines for Weber State Football

(An integration of chemistry, communications, and exercise science)

By Curtis Cosgrove
My Project:

My Capstone Project is a culmination of my collegiate academic and athletic experience applied to my future career. Within my capstone I have created a pamphlet that will serve as a resource to Weber State football athletes. This pamphlet will include information on how the football players can improve their health and performance by properly taking care of their bodies. The second part of my project includes a support paper that will serve as a resource for me throughout my career. The information that is included within this paper will give me a place to turn when I am asked questions relating to the topics I have chosen to research.

I used the knowledge I have acquired to create an educational pamphlet that will be distributed to Weber State football athletes to improve their strength, conditioning, health, and performance. As part of my pamphlet I have included basic nutrition tips for the athletes. In my pamphlet they can find information on how sleep and proper recovery affects athletic performance. I have created a section to educate the athletes on the importance of hydration. There is a section dedicated to supplements and I have provided proper sources for the athletes to utilize in order to find reliable information on supplements. I have also included a section in the pamphlet that will inform them of the negative effects that drugs and alcohol have on athletic performance.

The support paper I have included with the education pamphlet I created will be a guide to me throughout my career. I designed this supporting document in a tabbed format to make easy access to information that is important in my profession. This paper includes a cultural analysis of Weber State football. This analysis is crucial in order to be able to understand the way this organization functions. This analysis enables me to highlight the strengths and weaknesses of this organization, and afterwards I will be able to identify ways to promote lifestyle changes in ways that the members of this organization will be receptive to. In my supporting document I have included scientific information on creatine, protein, drugs, alcohol, hydration, sleep, basic nutrition guidelines, and a section summarizing a nutrition survey I administered to the football team. My intention is that my capstone will improve Weber State football and also prepare me for a successful career.

Why I chose this project:
During my time as a Weber State Football player I was often frustrated with the way my body felt when it was time to compete. I was injured many times and never felt that my body reached its potential. I always worked very hard during weight training and speed training but I never seemed to get stronger or faster throughout my five years at Weber State. I have thought about this often, and through the knowledge I have acquired in college I now know that having our bodies reach their potential has only a little to do with what we do in our training sessions and a lot to do with how we take care of ourselves when we’re not being supervised.

During my junior year of football I received my fourth and fifth diagnosed concussions. After I had my fifth concussion I had migraines every day for a month. Whenever I got these migraines I would not be able to think, I could not see, nor could I talk clearly. I met with the team physician and we decided that it would be best for me to stop playing football. I went on to miss my senior season knowing that I would never be able to reach many of the goals that I had set for myself. One of those goals was to be able to be remembered for making the Weber State Football Program better. I had always wanted to do this beginning from the time they gave me a scholarship and a chance to play the game I love.

After I was told my career was over I went on feeling sorry for myself for a short time and then decided I could still make a difference. I asked to meet with the head football coach and insisted that I still be involved in the football program. I volunteered to work in the weight room and over time I feel that I’ve learned to make a difference. At the time I first volunteered in the weight room I never imagined that I would have the desire to become a collegiate strength and conditioning coach, but it has happened. I now want to create a capstone project that will assist in making a difference to the Weber State Football Program and that will serve as a resource for me as I begin my career in strength and conditioning.
Table of Contents

TABLE OF CONTENTS ................................................................................................. 4
CULTURAL ANALYSIS OF WEBER STATE FOOTBALL ............................ 1
PERFORMANCE NUTRITION .................................................................................. 6
HOW TO DETERMINE CALORIE NEEDS .......................................................... 14
SAMPLE MEAL PLANS .......................................................................................... 16
ATHLETE NUTRITION CHECKLIST ...................................................................... 19
HYDRATION ........................................................................................................... 21
SLEEP ..................................................................................................................... 24
CREATINE SUPPLEMENTATION ........................................................................... 25
ALCOHOL AND THE ATHLETE ............................................................................. 27
WORKS CITED ....................................................................................................... 29
Cultural Analysis of Weber State Football

Studying the culture of an organization can be a difficult task because there are so many different elements that contribute to what a culture is. In my analysis of Weber State Football I will focus on three distinct levels. I will first explore the artifacts of the organization; this will include the way the team presents themselves on a daily basis, the stories that are talked about within the team, and the physical things that make this team who they are. The second part of my analysis will be to look at the espoused values of this team; I will examine the things the team claims they believe. The last area that I will analyze is the core assumptions of this team. The core assumptions are the things that they actually believe whether or not they are ever talked about. After this analysis we should all be able to draw conclusions on the things that make this team function and be able to help identify areas where they might improve.

In January 2014, Jay Hill left his position at the University of Utah to become the Head Coach of Weber State Football. Coach Hill has become the fourth Head Coach at Weber State in the last four years. Prior to Coach Hill Weber State was led by Jody Sears who was the interim Head Coach after the unexpected departure of John L. Smith. Coach Smith was only the Head Coach of the Wildcats for 4 months before leaving to become the interim Head Coach at the University of Arkansas. Before John L. Smith’ short time as Head Coach the Wildcats were led by Ronald McBride who was the Head Coach from 2005-2010 (contributors, 2013). Throughout McBride’s time at Weber State the football program was performing well on the field and winning more games than they had in a long time, including a conference championship in 2008. A major issue during the McBride era was there was a perception amongst the university and local community that the players were undisciplined and viewed as trouble makers. Collegial stories tell that during that era many players used drugs, performed poorly in academics, and caused problems in the community. Weber State was in need of a solution to help them to correct these issues and continue winning games.

Coach Hill became the Head Coach of Weber State at a time when the program is desperate for success. The Wildcats have had losing records the last three seasons including a 4-19 record over the last two years. There is beginning to be a lot of pressure to get the football program more successful and competing within the Big Sky Conference. When Coach Hill accepted Head Coach Position he understood the difficult task he has of changing the culture of Weber State Football and getting the team to win games. Understanding that cultures are
relatively enduring and difficult to change (Miller, 2012) Coach Hill brought with him an excellent coaching staff that is familiar with the state of Utah and can assist him in his position. Coach Hill’s coaching staff has done a great job of creating a program that is aimed to weed out the troubled athletes and reward those who are doing the right things.

Edward Schein provides a definition of culture that will be our guide as we analyze the Weber State Football culture. Schein believes the culture of a social group to be “A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems (Miller, 2012).” Schein also makes a point that culture is socially created through the communicative performances of organizational members (Miller, 2012).

To help understand the different contributing components of a culture Schein broke down the important parts of a culture into three main parts. The first part in being able to describe a culture is to look at the organization’s artifacts, which includes the things you can visibly see within an organization. Artifacts may include the way the organization dresses, speaks to each other, the way they appear to the media, etc. The second part is the espoused values of the organization, which includes the values that the company claims that they have or want. The third part of Schein’s model is the basic assumptions of the organization. The basic assumptions include the taken for granted assumptions that individuals in an organization have about the way their organization works.

There are a lot of different artifacts that are important to the football program. The artifacts I will describe are the ones that I feel are the most significant. Elizabeth Dee Shaw Stewart Stadium is iconic for the football program, located along the mountains in Ogden, Utah. The program is often represented visually with a picture of the stadium and the mountains behind it. The positioning of the stadium on the hillside below the Wasatch Mountains provides spectacular scenery. The stadium has undergone recent renovations including a new artificial field, new stadium lighting, and a brand new track that was installed in 2011.

Another significant artifact that the team has are the newspaper articles produced about the organization. These articles paint a picture to the readers on who Weber State is and what they stand for. Some articles that have recently been published in the newspaper include community service that the team has helped with such as the football players reading to elementary school kids, camps that the team is hosting, stories about players who are new
additions to the team, analysis’ of practices and games, etc. Since Coach Hill has taken over there have been newspaper articles published about the changes at Weber State and the way that Coach Hill will get the program back on track. These articles have included things about the coaching staff and their connection to the state of Utah. There has also been media coverage of the recruiting change from Coach Hill’s staff and their dedication to recruit from the state of Utah.

Like most collegiate athletic programs you will find that players show up to football related activities and to their classes at school dressed in athletic clothing (gym shorts, T-shirts, and athletic shoes.) Coach Hill requires the team to be dressed in Weber State Football issued gear whenever the they are participating in a team sponsored activity, and that all players wear Adidas clothing since it is the apparel sponsor of Weber State Athletics. Also, as part of the culture change brought about by Coach Hill, the team has been receiving more workout gear than they have at any other time as a way to reward players for doing the right thing, and to get the team to look like professionals.

The way the team addresses their coaching staff shows that they respect them and acknowledge their authority; players refer to them by Coach followed by their last name and usually reply with “yes sir” when an order is given by a coach. Another important artifact is presented when the team gets a cheer together at the end of workouts or practices. A leader will call the team to come together and huddle up and will break apart after they all participate in saying a cheer together. This can be anything from family, work, wildcats, cats, champs, or whatever a popular team motto is on the team. This has been a tradition amongst this team for a long time as an attempt to unite the team, and develop a cohesive atmosphere.

Sit through one of the team meetings and you will likely hear some of the espoused values. Coach Hill often goes over the team’s priorities and what is expected of each member. Each player is required to memorize the team values and be able to recite them if called upon by a coach. The team values are 1) treat women with respect 2) no DUI’s 3) no drugs 4) no stealing and 5) do well in school. These values are talked about frequently and are the things the coaches have decided to emphasize.

Another value that is often talked about at the end of team activities is the importance for the team to be involved in the community. The coaches spend a lot of time trying to talk the athletes into participating in as many service projects as possible to give back to the
community. They claim that they believe in doing this to give back for all the support that the community gives to them, but also to promote their program to the community.

A new espoused value that was presented to the athletes by the strength and conditioning staff is to live by the motto “above the line.” This represents a leadership quality where the players are expected to act in a dignified manner in everything they do. An above the line player does not complain about what they are going through, they don’t talk back to a coach, or have a poor attitude when things get hard. The coaching staff is trying to change the culture at Weber State by trying to help the players recognize when they have an above the line mentality and when they may be below the line. The players are often evaluated at the end of workouts on whether or not they had an above the line attitude through whatever challenge they are faced with. This motto is presented on the team’s new workout gear and is often part of team cheers to emphasize that everyone needs this mindset.

The third aspect that Schein has in his model of cultures is the core assumptions of the organization (Miller, 2012). Since the hiring of Jay Hill it is my belief that the team has the assumption that the coaches are leading the program in the right direction and if someone hasn’t bought in to what they are doing he will be removed from the program. The team has lost a handful of players (including last years’ starting quarterback) because they weren’t committed to what the coaches are trying to get done.

I have seen three Head Coaches come and go over the last few years but I have never seen the players so excited about playing football. The players have seen through many examples that the coaches will reward hard work and demand it from the players. Coach Hill does a great job of coming up with incentives for those who work hard on the field and in the classroom. He has rewarded players with shoes, hoodies, recognition, praise, etc. for giving their best effort in everything they do.

Another core assumption throughout the team is that even though football requires consistent hard work the players are expected to have fun while they play the game. Coach Hill has asked his assistants to help him in coming up with ways to make the game fun for the players. It wasn’t long ago that Coach Hill was a player himself and he knows how important it is to love the game of football and the experience of being a college athlete. The players are starting to believe that even though football related activities are hard they can still be and this assumption has changed the players’ mindset completely. I have never been around a coach that has cared so much about the success of the players and wanting to have them happy at the
same time. This says a lot about the culture change at Weber State and I’m excited to see the
direction that Coach Hill takes this program.

While all the other core assumptions have been positive it is also important to identify
areas the team’s culture may be struggling. I believe there is an assumption primarily among
the veteran players that the coaching staff won’t last long. The upper classmen on this team
have undergone many coach changes in the last couple years and haven’t had any consistent
structure through their careers. They have naturally developed a mindset that although things
are fun now they won’t last. This is a negative attitude present on the team that is keeping a
handful of guys from buying in to the program.

While the above analysis gave us a small look into the overall complex culture of the
football team it is important to know that subcultures can form within the overall culture.
When incoming freshman arrive on campus they bring with them their own culture. A major
part of the freshman learning the culture consists of developing an understanding of the
assumptions and values that make up that organization’s culture (Miller, 2012) This is done by
observing and listening to the way the team handles their business. In a way it’s unfortunate
that the new players are molded to be like the veterans and not the other way around, because
the incoming freshmen seem to bring energy and optimism that isn’t seen in the veterans. Not
only do the veteran players have a different subculture from the incoming freshman it is
important to note that the coaches have a different subculture from the players.

This analysis has showed us that this organization is at a point where it is eager to make
changes for the better. With the emphasis of the team on being “above the line” it would be an
opportune time to influence the players to make appropriate lifestyle changes. Since the
addition of Jay Hill to the program, it is evident that the players are ready to follow his lead in
returning Weber State Football back to the top.

In conclusion there are many things within an organization’s culture that make it unique
from other similar organizations. Examining the Weber State Football organization helps us to
see that this organization has done a great job at changing its culture. Culture is a very hard
thing to change but it’s my opinion that it can be done as leaders lead by example and never
slack in living the values they want emphasized. Time will only tell how effective this culture
change will be and how long it will last. If the program has stability over the next couple years,
it is my belief that the players will continue to commit to the changes Coach Hill is making, and
Weber State Football will be respectable once again.
Performance Nutrition

Reaching our athletic potential is all about the work we put into making ourselves better. Endless hours of honing our skills at practice and improving our strength in the weight room are necessary to reaching that potential. Another component that is often overlooked is nutrition. By failing to address nutrition we are setting a limit on ourselves that will prevent us from ever reaching our potential. Food is our fuel. We get out exactly what we put in. We wouldn’t put poor quality gas into a performance sports car, so why would we make food choices that limit our maximum athletic performance? Proper nutrition can bridge the gap between a good athlete and a great athlete.

Food is made up of three macronutrients. Macronutrients are simply things that are needed in large doses in our bodies. The three macronutrients that we will explore in detail are proteins, carbohydrates, and lipids.

PROTEIN - Protein is a building block for our bodies to build muscle, repair damaged tissues, and maintain certain body processes. It is essential for an athlete to consume enough protein to allow the body to recover properly and rebuild itself for your next bout of training.

Amino Acid Structure

Proteins are created by combining amino acids together in specific linear arrangements. An amino acid is a nitrogen containing molecule that links to other amino acids with a peptide bond. There are 20 amino acids that the body can arrange to create the proteins it needs. The body contains about 50,000 different protein combinations (Katch, McArdle, & Katch, 2011).
Out of the 20 amino acids contained in the body we can create 12 of these on our own; they are called “non-essential amino acids.” The remaining 8 amino acids called “essential amino acids” need to be consumed in our diet to supply our body the use of these amino acids.

**Complete vs. Incomplete Proteins**

When considering sources of proteins it is important to note that not all proteins are created equal. There are two major categories of proteins and both offer completely different benefits. The first category is called **Complete Proteins**; these proteins contain all of the essential amino acids in their correct ratios. Complete proteins provide the body the needed amino acids to complete all needed functions. The other category of proteins is the **Incomplete Proteins**; these proteins lack one or more of the essential amino acids (Katch, McArdle, & Katch, 2011). If someone is consuming incomplete proteins they must couple that source of protein with a source that has the missing essential amino acids to prevent malnutrition.

**How Much Do I need?**

Most football players will benefit from higher protein consumption than non-athletes will. The average person will need protein to replenish the amino acids in their body to keep bodily processes functioning at a high level. A football player on the other hand will not only need protein to replenish amino acids but will need additional protein to assist in repairing and building muscle tissue.

For athletes that need more protein than the average American, it is suggested that they consume between 1.5 and 2.0 g/kg of body weight each day (Baechle & Earle, 2008). The most effective way to reach this amount is to consume .25g/kg body weight of protein every 3-4 hours to promote muscle growth and tissue repair.

While it is true that some athletes may require more protein than the .8g/kg that is the recommended RDA, it is also important not to believe the common myth that more is better. It is speculated that increased protein consumption over a long period of time may cause health problems such as renal dysfunction (especially with those who already have kidney problems) (Tipton, 2011) for that reason it is important to regulate the amount of protein you consume. The way the body eliminates excess protein is by excreting the nitrogen from the protein in the urine and the converts the remaining ketoacids into another energy source either a carbohydrate for gluconeogenesis or stored as a fat (Baechle & Earle, 2008). It is important to
understand that excess protein has the potential to be stored as body fat, and more is not always better.

**Protein sources**: The best sources of protein are from whole foods. A well balanced diet will eliminate any need for protein supplementation. The following are some whole food examples that serve as a protein source: Chicken breast, turkey breast, flank steak, eye of round steak, lean ground beef, pork sirloin, tuna, tilapia, salmon, low fat milk, cottage cheese, yogurt, cheese, tofu, beans and legumes.

**CARBOHYDRATES** - The next macronutrient is carbohydrates. Recently, carbohydrates have received a bad rap due to many of the popular low-carb diets. However, carbohydrates are the main source of energy when competing or training so performance athletes should never follow a low-carb diet! Doing so could zap energy levels and leave you feeling sluggish and unable to perform at their best.

Carbohydrates play three distinctive roles in the body. Their first role is an energy source. This is especially important for athletes to understand so they don’t play victim in a low carb diet. Carbohydrates in the form of blood borne glucose and muscle glycogen are the driving force behind muscle action (Katch, McArdle, & Katch, 2011). A second important role of carbohydrates is its function of sparing protein. If the body has an adequate amount of carbohydrates it will preserve tissue proteins from being used as the energy source. The third major role of carbohydrates is its ability to serve as a metabolic primer. When a carbohydrate is broken down its byproducts will work as a primer to facilitate the body’s use of fat for energy (Katch, McArdle, & Katch, 2011). With a carbohydrate deficiency the athlete will have a reduced ability to perform maximal exercise.

Carbohydrates are built from carbon, oxygen, and hydrogen atoms that are combined together with a ratio of one carbon atom to two hydrogen atoms with one oxygen atom. The empirical formula for carbohydrates is (CH2O)n, the n represents a 3-7 carbon chain depending on the sugar (Berg, Tymoczko, & Stryer, 2012). Almost all dietary carbohydrates come from plant sources with only a few exceptions.

There are three categories of carbohydrates which consist of monosaccharides, disaccharides, and polysaccharides. A carbohydrate is classified into one of these three groups
according to the number of sugar units it contains. The make-up of carbohydrates plays a major role in their function and the way our bodies handle them. We should strive to avoid simple carbohydrates (mono and disaccharides) and try to consume the majority of our carbohydrates from complex carbs (polysaccharides.)

Monosaccharides

Monosaccharides are single sugar molecules which are the most basic form of carbohydrates. Glucose is the most common monosaccharide, which serves as the building block for many larger sugars (Baechle & Earle, 2008). Glucose is also the primary energy substrate used for cells. The more complicated forms of sugar will be broken down to glucose for the body to use as energy.

Disaccharides

Disaccharides consist of two monosaccharides joined together. Sucrose is the most common disaccharide which is a combination of glucose and fructose. Sucrose is found in most fruits and is used to create brown, powdered, or white sugar. Another common disaccharide is high fructose corn syrup (which is also a combination of glucose and fructose just in the liquid form) which is believed to be a large contributor to the obesity epidemic that is taking place in America.
Polysaccharides

A Polysaccharide is a chain of many sugars linked together. Polysaccharides are also referred to as complex carbs. A complex carb may consist of a few sugars linked together all the way up to thousands of sugars connected together. The most common polysaccharides are starch, fiber, and glycogen.

**Carbohydrate Requirements:** As a general rule of thumb an athletes’ diet should consist of 45-65% of daily Calories from carbohydrates (Baechle & Earle, 2008). Those who are involved in endurance training should consume a high carbohydrate diet to replenish skeletal glycogen. The amount of carbohydrates needs to be adjusted according to the training type and on an individual basis.

**Carbohydrate sources:** it is suggested to include a variety of complex carbohydrates in your diet. The following are some whole food examples that serve as a carbohydrate source: Oatmeal, whole wheat pasta, sweet potatoes, brown rice, whole grain breads, potatoes, barley, whole grain cereal, fresh fruit, and vegetables.

**LIPIDS** - The final macronutrient is lipids (fats.) Fats just sound bad and it is unfortunate because eating fat does not necessarily mean that you will store fat as bodyfat. Fats are important to healthy skin, organ protection, cellular function, and hormone balance. Fats are also our primary source of energy when we are resting.
The quality of fats is what we should be concerned with. It is true that not all fats are created equal and so it is important to know the difference between them and what they do to the body. Each different category of fat has a unique chemical structure that determines what type of fat it is. Lipids are composed of the same elements (oxygen, hydrogen, carbon) as carbohydrates but the way they are bonded and their ratios make them much more energy dense than carbs.

The main distinction between the lipids is the level of hydrogen saturation among the carbon chains. A molecule is considered to be saturated if there are no double bonds along the carbon chain. A molecule is said to be unsaturated if there are one or more double bonds along the carbon chain. This distinction may seem simple on paper but it changes the lipid drastically in the way it looks, tastes, functions, etc.

Saturated fats as shown in the picture above contain all the hydrogen atoms they can carry. They are found in animal products and tropical oils such as coconut oil. Saturated fats can cause health problems if we consume too many of them. These are the fats that are known to raise cholesterol levels and clog our arteries. We want to limit saturated fats when possible and we should try to limit our saturated fat consumption to less than 10% of the total fats we consume.
Unsaturated fats on the other hand won’t clog our arteries and can even help to improve cholesterol levels. There are two different types of unsaturated fats classified by the amount of double bonds they contain. If a molecule contains one double bond along the carbon chain it is classified as a monounsaturated fatty acid. If a molecule has two or more double bonds along the main carbon chain it is called a polyunsaturated fatty acid. In general we should strive to consume most of our fat calories from unsaturated fats rather than saturated fats.

The type of fat that we should consume the least amount of is called trans-fatty acids. These occur when one of the hydrogen atoms moves from its naturally occurring position across the carbon chain to the other side to an unnatural position (Katch, McArdle, & Katch, 2011). This is the kind of fat that is often seen in the junk food and processed foods we consume. It is a big health concern to those who consume this type of fat due to its connection to heart disease and its ability to negatively affect cholesterol levels.

**Lipid Recommendation:** The average American consumes far more fat than is recommended on a daily basis. The biggest problem with this is that they are consuming large amounts of trans fat and saturated fats which is making America fat. The recommendation from the Institute of Medicine is to aim for fats to make up about 20-35% of total calories with less than 10% from saturated fats (Baechle & Earle, 2008). In some cases the athletes that I work with will think fats are bad altogether and try to eliminate them completely from their diet. It is important to help these athletes understand that they are essential to good health and to help them monitor the types of fats they eat.

**Lipid Sources:** 
- **Polyunsaturated** examples: sunflower seeds, sesame seeds, pumpkin seeds, corn oil, walnuts, flaxseed, soymilk, tofu, safflower oils
- **Monounsaturated** fats: peanut butter, sunflower oil, avocados, olive oil, canola oil, almonds, hazelnuts, pecan, cashews
Saturated fats: most animal fats and tropical oils, cheese, ice cream, palm oil, coconut oil, butter (Smith, Paul, & Robinson, 2014).

Trans-fat examples: margarine, crackers, candies, cookies, snack foods, fried foods, baked goods, salad dressing, vegetable shortenings (Katch, McArdle, & Katch, 2011). (Don’t forget that protein sources generally have fats too)

**Nutrition Tips**

- Limit processed foods. Try to eat foods that are as close to their natural state as possible.
- Limit fast food. Fast food is generally not healthy food. If you must, opt for a sandwich shop, choose whole grain bread, load it with veggies and lean meats, and chose a low fat sauce.
- Make a grocery list. You’ll be less likely to impulse buy and you will save money.
- Shop the perimeter of the grocery store. 90% of what you need is here. Fresh produce, dairy, and meat are all found on the perimeter. The middle aisles are mostly processed foods.
- Try to eat 5-6 smaller meals per day vs. 2-3 large ones.
- Try to eat a variety of colors in your fruits and vegetables. The more colorful they are, generally they have a greater concentration of vitamins and minerals.
- Lack of time is not a good excuse for poor eating. Try preparing all your meals twice a week such as Sunday and Wednesday. Cook large amounts and portion them out in meal size storage containers in your fridge. That way you can just pop it in the microwave and it takes just 2 minutes.
- Utilize a cold bag or soft-sided cooler. Take your meals with you and you won’t miss a meal or be tempted by fast food or vending machines.
- Eat a large variety of foods. This keeps food from getting boring and ensures that you are obtaining all your nutrients.
- Make sure the breads you buy say 100% whole grain on the package. Otherwise, it may just be over processed white bread dyed with molasses.
How to Determine Calorie Needs

To determine an exact amount of calories an athlete needs each day can be a very complicated task. Two athletes participating in the same sport can require different amounts of calories. Differences in body mass, age, body composition, resting metabolic rate, thermic effect of food, intensity of training, and work efficiency all play a part in determining how many calories an athlete actually needs. The best way to determine if an athlete is consuming adequate calories is to monitor their body weight and make the appropriate adjustments according to their weight; assuming you keep the athletes properly hydrated (Baechle & Earle, 2008).

Although it is difficult to get an exact number of needed Calories it is possible to get a general idea. Using the following formulas we can get an estimate for our athletes on the amount of Calories they need each day. Since these formulas use activity level it is important for the athletes to adjust their calculations throughout the week based on their level of exercise. To use the sedentary lifestyle formula a person must not participate in regular physical activity. Those who are considered moderately active are those who participate in 2-3 days per week of planned light to moderate physical activity. An athlete is considered to be in the strenuous category if they participate in 4-6 days per week of planned heavy physical activity.

Average 24-hour Energy Expenditure Estimated From Body Weight Based on Different Physical Activity Levels (Katch, McArdle, & Katch, 2011)

Men

*Activity level*

Sedentary physical activity  Bodyweight X 13.0 = Total Daily Calories
Moderate physical activity  Bodyweight X 15.0 = Total Daily Calories
Strenuous physical activity  Bodyweight X 17.0 = Total Daily Calories

Women

*Activity level*

Sedentary physical activity  Bodyweight X 12.0 = Total Daily Calories
Moderate physical activity  Bodyweight X 13.5 = Total Daily Calories
Strenuous physical activity  Bodyweight X 15.0 = Total Daily Calories
When an athlete wishes to either gain or lose weight the healthiest way to do it is gradually. They should strive to modify their weight by 1-2 pounds per week. If an athlete wishes to decrease their body weight there are three ways it can be done successfully. The first option is to reduce the amount of calories they consume and maintain their physical activity level. A second option is to increase the athletes energy expenditure and maintain their caloric intake. The third way is to reduce the caloric intake of the athlete and to increase their energy expenditure with increased physical activity (Katch, McArdle, & Katch, 2011). If an athlete wishes to gain weight they should work with a dietician (many college teams have one on staff) to create a diet that will promote a healthy lifestyle while accomplishing their goals.
# Sample Meal Plans

## 2000 calorie meal plan

**Breakfast:**
- ½ cup oatmeal
- ¼ cup mixed frozen berries
- Low fat/low sugar yogurt

**Midmorning:**
- Banana
- 12 almonds

**Lunch:**
- 3 oz lean deli meat
- 1 oz cheddar cheese
- 1 tablespoon olive oil
- 2 slices 100% whole grain bread
- Tomato slices and lettuce

**Midafternoon:**
- 1 scoop whey protein mixed with water
- 10 Triscuit crackers

**Dinner:**
- 5 oz. grilled flank steak
- 1 cup brown rice
- 1 cup mixed vegetables
- Small salad with 1 tablespoon ranch dressing

## 2500 calorie meal plan

**Breakfast**
- ¾ cup oatmeal
- ½ cup mixed frozen berries
- 1 cup low fat cottage cheese

**Midmorning:**
- 1 pear
- 1 tablespoon peanut butter

**Lunch:**
- 4 ounces whole wheat pasta
- 1 cup tomato pasta sauce
- 5 ounces lean ground beef

**Midafternoon:**
- 1 scoop whey protein mixed with water
- ½ whole-wheat English muffin

## 3000 calorie meal plan

**Breakfast:**
- 2 cups strawberry mini wheats
- 1 cup 1% fat milk
- 5 sliced strawberries

**Midmorning:**
- 1 Apple
- 2 tablespoons peanut butter

**Lunch:**
- 5 oz lean deli meat
- 2 oz cheddar cheese
- 2 tablespoons olive oil mayo
- 2 slices whole grain bread
- Tomato slices and lettuce

**Midafternoon:**
2 tablespoons almond butter
1 stalk celery
Small box of raisins

**Dinner:**
- 8 oz grilled eye of round steak
- 4 oz whole wheat pasta
- 1 cup tomato pasta sauce
- 8 oz asparagus

**3500 calorie meal plan**

**Breakfast:**
- 2 whole grain English muffins
- 2 eggs
- 2 oz cheddar cheese
- 2 ounces deli turkey breast
- 1 avocado
- 1 glass orange juice

**Midmorning:**
- 1 cup cottage cheese
- 3 canned pineapple rings
- 1 whole wheat bagel

**Lunch:**
- 2 large whole grain tortillas
- 2 ounces cream cheese
- 5 ounces deli turkey breast
- 1 ounce Swiss cheese
tomato slices and lettuce

**Midafternoon:**
- 6 ounces grilled chicken breast
- 1 cup oatmeal
- ½ cup chopped almonds

**Dinner:**
- ⅛ cup dried cranberries
- 2 tablespoons honey
- 1 scoop whey protein
- 1 glass apple juice

**4000 calorie meal plan**

**Breakfast:**
- 6 ounces broiled salmon
- 1 cup steamed green beans
- 2 cups boiled potatoes
- ½ cup plain Greek yogurt
- Salad with 1 tablespoon ranch dressing

**Lunch:**
- 2 large whole grain tortillas
- 2 ounces cream cheese
- 5 ounces deli turkey breast
- 1 ounce Swiss cheese
tomato slices and lettuce

**Midmorning:**
- 6 ounces grilled chicken breast
- 1 cup brown rice
- 1 cup mixed vegetables

**Dinner:**
8 ounces grilled flank steak
4 ounces whole grain pasta
2 tablespoons olive oil
1 cup steamed broccoli and cauliflower
1 ounce Parmesan cheese

Night snack:
1 cup cottage cheese

5000 calorie meal plan

Breakfast:
2 cups shredded potatoes
2 tablespoons olive oil
3 eggs
3 slices turkey bacon
1 glass orange juice

Midmorning:
20 Triscuit crackers

Lunch:
5 ounces whole wheat pasta
1 ½ cups tomato pasta sauce
6 ounces lean ground beef
Salad with 2 tablespoons ranch dressing

Midafternoon:
1 whole wheat bagel
2 tablespoons almond butter
1 apple
1 glass orange juice

Dinner:
Chef salad:
3 ounces grilled chicken

Night snack:
1 cup cottage cheese
3 pineapple rings
12 almonds
Athlete Nutrition Checklist – What is Your Nutrition Condition?

Name:________________________________________  Sport:________________________________________

Date:___________________________ Live:______on campus_____ off campus_____ with parents

Instructions:
• Complete each question honestly!
• Areas identified as “sometimes/never” (A-C) can be used to develop some nutrition goals to work on.
• If you answered yes to any questions 19-26 – please consult with a Registered Dietitian or a Medical Doctor for further follow up.

<table>
<thead>
<tr>
<th>A: Daily Nutrition Habits</th>
<th>ALWAYS</th>
<th>SOMETIMES</th>
<th>NEVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I eat according to a regular timeline (every 3-4 hours).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I eat at least 3-5 servings of whole fruit a day (1 serving = 1/2 cup juice, 1 whole fruit, ½ cup berries)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I eat at least 3-5 servings of vegetables a day (1 serving = 1 cup raw, ½ cup cooked, ½ cup juice).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I eat protein (meat, fish, beans, tofu) at least 2x per day.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I am eating 3-4 servings of calcium rich foods per day (1 serving = 1cup milk/soy, ¾ cup yogurt, 1 sl. cheese)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I eat grains (bread, cereal, rice, pasta etc) at each meal.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I am drinking approx. 6-8cups of fluid/day <strong>outside</strong> of training (fluids = water, 100% fruit juice, milk).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B: Nutrition Planning</th>
<th>ALWAYS</th>
<th>SOMETIMES</th>
<th>NEVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. I grocery shop with my parents and participate in cooking.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I bring my water bottle to each of my practice sessions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I bring my recovery snacks to each of my practice sessions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I feel that I am organized when it comes to my food and fluids when I travel for competition.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C: Sport Nutrition Practices</th>
<th>ALWAYS</th>
<th>SOMETIMES</th>
<th>NEVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. I pre-hydrate with a minimum of 1-2 cups of fluids before a workout/competition/training session.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I regularly hydrate every 20-30 minutes during training/competition.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I use my urine color as a hydration indicator and make</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
changes to my hydration as per my results.

16. I always have a balanced meal or snack 1-2 hours before training. (balanced = combination of starches, protein and fruits/vegetables)

17. For training lasting longer than 2 hours, I always have a healthy snack and fluids (e.g. Fruit, yogurt, small meat sandwich, crackers with low fat cheese, whole grain granola bar with nuts in it)

18. I always eat a small recovery snack right after training with fluids (see snack ideas in #16).

<table>
<thead>
<tr>
<th>D: Medical History Questions</th>
<th>YES</th>
<th>NO</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. For drug tested athletes - do you currently take dietary supplements (i.e., Multivitamins, vitamin C, herbal products, protein powder) that have not been reviewed for safety?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Has it been more than one year since you have had your blood checked?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Have you ever been diagnosed with low iron or any other nutrient deficiencies?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Do you want to change your body weight/body composition (gain/loss) for your sport?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Female athletes - Since starting your menstrual period, have you ever missed more than 3 cycles in a row?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Have you experienced muscle cramping, heat stroke, or severe dehydration in the past?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Have you had a recent decrease in energy level for training, feel more &quot;run down&quot; than usual or increased frequency of getting sick?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Problems with ongoing diarrhea, bloating, constipation?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Do you follow a special dietary practice (e.g., vegetarian, paleo, wheat intolerance)?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hydration

A major part of taking care of the human body is making sure it has all the nutrients that it needs to function at its peak level. The Human Body is composed of 45-70% water (Baechle & Earle, 2008) which makes it the most important nutrient to replenish on a frequent basis. Those participating in regular exercise need to take extra precautions to ensure they are receiving enough fluids to stay hydrated.

Consequences of Dehydration

A dehydrated athlete will not only risk performing less than their potential but will also be at risk for serious health concerns. At as little as a 1% body weight loss from fluids the athlete is already experiencing an elevated core temperature. If the weight loss reaches 3-5% of their body weight the cardiovascular system will be strained and will show an impaired ability to dissipate heat (Baechle & Earle, 2008). If weight loss were to reach 7% of initial body weight collapse is likely. This information makes it clear that even a small amount of dehydration can alter performance and put an athlete at risk. If they are not monitored and their dehydration is extreme they can be at risk of heatstroke, heat exhaustion, elevated body temperature, and even death.

Once the body is dehydrated it will not be able to regulate body temperature in an effective way. As plasma volume decreases two changes will take place. 1- An increase in systemic vascular resistance to maintain diastolic blood pressure. 2- There will be a reduction in skin blood flow as the body makes sure it has enough fluid for blood flow to the heart (Katch, McArdle, & Katch, 2011). This will cause body temperature to rise and will make exercise exhausting.

There are many theories that dehydration leads to an increased number of injuries during sport. Many people also believe that strength and power can be affected by dehydration. I have not found any hard evidence to prove these theories but it should be noted there are no theories that believe that being hydrated will limit performance. Since this is true it is our responsibility to ensure that our athletes stay hydrated for their safety and best performance.
How Much Water Do I Need to Drink?

The Food and Nutrition Board has set a recommendation for total water intake at 3.7L per day for young men (Baechle & Earle, 2008). This is a good starting point as a reference for football players but it should be noted that this amount needs to be increased during times of sweat loss. This is especially important during football camp when temperatures are very hot and the players are practicing in equipment that traps the heat to their body. As a general rule athletes should consume and additional 2 cups of fluids per day per pound of body weight lost during a training session.

It is important to understand and explain to the athletes that they cannot rely on thirst as the only indicator of determining when they need fluids. The human body is inadequate of replacing sweat loss when fluids are consumed at will. Most athletes replace only about two-thirds of water that is lost as sweat during exercise (Baechle & Earle, 2008).

Athletes need to take an active approach to get and remain hydrated. The best way to attack this goals is by having a before, during, and after training mentality. If the athletes have the idea that they need to get hydrated before training, remain hydrated during exercise, and rehydrate after exercise they will be successful in maintaining a hydration status that will promote peak performance.

When considering preparing for training it is suggested that athletes consume at least 2 cups of fluids within two hours of their training session. This can be consumed in many different forms and does not have to be water. Consuming the fluid a couple hours ahead of training will allow plenty of time for the body to process the water and excrete any excess fluid.

Since an athlete shouldn’t rely on thirst as the only indicator of fluid need they should consume fluids frequently during training. During training it is important that fluids are absorbed rapidly and so it is important that the athletes are choosing drinks that their body can process quickly. The ideal drinks during training are cold water and sports drinks. Larger volumes of fluids tend to empty the stomach faster than small volumes and as a result chugging is preferred over sipping (Baechle & Earle, 2008).

When a training session is over it is the athletes’ responsibility to begin preparing for the next session. They need to monitor their body weight and make sure they regain any weight lost during training by drinking fluids. In cases where an athlete has lost several pounds during exercise a sports drink can help decrease urine output and maintain more water in their body.
How to Monitor Hydration as a Strength Coach

As a Strength and Conditioning Coach it is my responsibility to teach the athletes how to monitor their hydration status. A good approach for monitoring a large team’s hydration status is to weigh them in before and after training. This will give them an idea of how much fluid they lost during exercise and how much they need to drink to replenish that which was lost. As a reminder they need to consume about 2 cups of fluids per pound of body weight that was lost during training. This is a good approach but can be a bit burdensome to do daily. This is an especially useful tool during fall camp and any time when conditions promote excess sweat loss during training.

An easy method to teach the athletes to be able to monitor their own hydration status is to examine the color of their urine. The more hydrated the athlete is the more clear their urine will be. Their goal should be to keep it lemonade like in color or lighter. As these two methods are used it will ensure that the athletes are able to obtain and remain hydrated which will promote their peak performance.
Sleep

The college athlete is usually sleep deprived due to the high demands placed on them, and their desire for a social life outside of sport. In order for athletes to optimize athletic performance it is crucial for them to receive adequate sleep. It should be taught from a strength and conditioning standpoint that sleep is part of the training program and is essential to maximize results.

According to the national sleep foundation the average American needs 7-9 hours of sleep daily. This should be the minimum number that we recommend to our athletes. It is very possible that an athlete needs more sleep due to their high level of activity and so we should encourage even more sleep.

An athlete who is well rested will be able to perform at their peak level. Obtaining adequate sleep has been shown to improve motor skills, speed, accuracy, reaction time, be less prone to injuries, improve mood and eliminate some stress. Athletes must make sacrifices in their lives to ensure they are getting enough sleep to keep them healthy.

Whenever someone receives less sleep than what they need they find themselves with what is called sleep debt. This debt has a cumulative effect over time and can cause serious health and performance concerns if it is not addressed. You can overcome sleep debt by gaining extra sleep over time. The best way to avoid sleep debt is to make it a habit to get enough sleep every day. Research has shown that if sleep debt has been going on for an extended period of time it will take more than a couple good days of sleep to overcome its effects (Warner, 2010). This is important for football players because a lot of them rely on one good night’s sleep on the night before their game to get them at their peak level. This evidence shows that it may take several nights of good sleep in a row to get them at their top level of performance.

Tips to improve sleep (tips were given by the national sleep foundation)

• Stick to the same bedtime and wake up time, even on the weekends
• Practice a relaxing bedtime ritual
• Evaluate your room and eliminate distractions that could take away from your sleep
• Sleep on a comfortable mattress and pillows.
• Avoid alcohol, cigarettes, and heavy meals in the evening
• If you can't sleep, go into another room and do something relaxing until you feel tired.
Creatine is one of the most common supplements athletes take to enhance their performance. It is believed that up to 80% of strength/power athletes have used a creatine supplement at some point in their career (Baechle & Earle, 2008). The focus of this article will be to provide information on what creatine is, how it works, and determine if it will benefit the athletes that I work with.

Creatine is a nitrogen containing compound that is synthesized primarily by the liver. While creatine is found naturally in the body it can also be obtained through diet of meat and fish. Once creatine has entered the body almost all of it will be stored within muscle tissue until it is needed to create ATP for muscle contractions.

Creatine when combined with a phosphate group (Creatine Phosphate CP) provides an important role for creating energy during short duration high intensity exercise. The CP will act as a substrate for the formation of ATP by repophosphorylating ADP (Baechle & Earle, 2008). CP plays a vital role for the performance of strength and power athletes who give maximum effort in short bursts. After several short bouts of intense exercise an athletes’ CP concentration within their muscles will be depleted and this will leave them fatigued and will limit their ability to perform repetitive maximal exercise.

Scientists have determined that if an athlete is able to begin exercise with a higher concentration of CP they will be able to perform more repetitions of maximal exercise before reaching fatigue. This is the reason that people take creatine as a supplement. The logic behind it is if they can build their creatine concentrations to a higher level than they will be able to train at maximum levels for a longer period of time before their CP store is depleted.
Taking Creatine supplements has been shown to increase the creatine content of muscles by up to 20%. There is a limit though to the amount of creatine that can be stored in the muscle and is somewhere between 150-160 mmol/kg dry weight per person. The body cannot store more than this amount and so taking more than this will have no benefit for a person.

Studies have shown tremendous results that creatine enhances training sessions when maximum concentrations are achieved. Since creatine is known to help with reducing fatigue and enhancing recovery it is better as a training aid rather than as a performance enhancer. Since an athlete is able to train harder and recover better with creatine they can expect to get more out of their training sessions. Studies have been consistent to show that creatine helps with strength improvements in lifts such as the bench press, squat, and power clean.

The most common technique in taking a creatine supplement is to begin with an initial loading phase. This loading phase generally consists of 20-25g daily for the first week. Once this loading phase is over the muscle CP concentration will be at its peak level and the athlete will simply need 2 g of CP a day to maintain the maximum concentration. If an athlete does not do the loading phase they may still reach their maximum concentration but it will take longer.

Since this is a legal supplement approved by the NCAA I could suggest this to my athletes to enhance their training. There hasn’t been any negative effects linked to taking creatine as a supplement and therefore would be safe for athletes to use. I don’t usually suggest that my athletes spend their money on taking supplements and prefer a well-balanced diet, but I do believe creatine to be an affordable way to enhance their training.
Alcohol and the Athlete

Dive into the world of college athletics and you will find that a large portion of athletes consume alcohol. While it isn’t practical to get them to completely eliminate it from their lifestyle it is important to educate them on safe use and consequences of consuming alcohol. Those who consume alcohol prior to competing will find that they are not able to perform their best.

After an athlete has completed a workout session replenishing their glycogen stores in muscle tissue and the liver is one of their goals. If an athlete consumes alcohol (ethanol) following a workout they may struggle to replenish these glycogen levels with even a small amount of ethanol in their system (Shireffs & Maughan, 2006). This may result in less ATP available for their next bout of exercise, and cause fatigue sooner.

Another negative concern of alcohol consumption with athletes is the diuretic effect of ethanol. It is estimated that ethanol increases urine output by 10ml for each gram of ethanol consumed (Shireffs & Maughan, 2006). Due to this affect highly concentrated alcohol drinks will cause dehydration more so than those with lower concentrations of alcohol.

Ethanol is known to impair adaptation to both hot and cold temperatures. This can be a major problem for football players who are often asked to train in the heat of the summer and in some cases cold winters. If the athletes are consuming large amounts of alcohol prior to training sessions they will find that their body will struggle to regulate its temperature.

Even a small amount of alcohol will have a negative effect on aerobic performance. This can become a problem for football players during games or long training sessions where their endurance is important. This is part of the reason that athletes should not be consuming alcohol, especially during their season.

Not only can alcohol potentially affect your performance but it will affect your ability to recover after exercise. When muscles are damaged they may become inflamed and need additional blood flow to the damaged muscles. Ethanol is a peripheral vasodilator and so when it is present it will limit muscle recovery by sending blood flow away from the damaged muscle.

How is Alcohol Processed in the Body?

Once you consume an alcoholic drink it is on a path to enter your blood stream to begin being broke down. Most of the alcohol (80%) will pass through the stomach and enter the small
intestine where it will then be transported to the bloodstream. The remaining 20% will be absorbed directly into the bloodstream through the stomach.

After Alcohol has entered the blood stream it will remain there until the liver is ready to break it down. The liver accounts for the breakdown of 90-98% of alcohol that enters the bloodstream. Any remaining alcohol is eliminated in sweat, urine, and through exchanging of gases during respiration.

When the body recognizes alcohol in the bloodstream it will shut down its metabolizing processes of all other nutrients in order to eliminate the alcohol as quickly as possible. The liver uses enzymes to aid in the breakdown of the alcohol. The most common way this is done is by a two-step reaction that will prepare the ethanol to be able to be eliminated from the body. In the first step ethanol is converted to acetaldehyde by the enzyme alcohol dehydrogenase (ADH). This acetaldehyde that is produced as a byproduct is toxic and usually has a short half-life. Even though acetaldehyde is short lived it is still believed to cause tissue damage. This is one of the ways in which alcohol may cause serious health issues. The second step of this reaction converts acetaldehyde to acetate by the enzyme aldehyde dehydrogenase. Once the ethanol is converted to acetate it can then be metabolized into water and carbon dioxide and be released from the body (U.S. Department of Health and Human Services, 2007).
Works Cited


Reaching our athletic potential is all about the work we put into making ourselves better. Endless hours of honing our skills at practice and improving our strength in the weight room are only the beginning steps towards reaching our potential. There are many components that are often overlooked that are equally as important as how hard we train. Sleep, hydration, nutrition, limiting alcohol consumption, etc. are all important parts of maximizing our potential. By failing to address these areas we are setting a limit on ourselves that will prevent us from ever reaching our potential.

It’s not about how you spend the one hour in the gym. It’s about how you behave in other 23 hours during the day.
NUTRITION TIPS

We wouldn’t put poor quality gas into a performance sports car, so why would we make food choices that limit our maximum athletic performance? Proper nutrition can bridge the gap between a good athlete and a great athlete.

- Limit processed foods; try to eat foods that are as close to their natural state as possible
- Limit fast food
- Eat a variety of colors in your fruits and vegetables
- Eat lean meat
- Eat 5-6 smaller meals per day vs. 2-3 large ones
- Plan ahead and make meals in advance
- Make sure the breads you buy say 100% whole grain on the package
- Eat a large variety of foods

SLEEP

An athlete who is well rested will be able to perform at their peak level. Obtaining adequate sleep has been shown to improve motor skills, speed, accuracy, reaction time, less prone to injuries, and have an improved mood and less stress. You must make sacrifices in your life to ensure you are getting enough sleep to keep you healthy and able to perform at your best.

- Get 8-10 hours of sleep every night
- Establish a consistent sleep/wake cycle
- Make sleep a priority
- Evaluate your room and eliminate distractions that could take away from your sleep
- Avoid alcohol, cigarettes, and heavy meals in the evening
- If you can't sleep go into another room and do something relaxing until you feel tired

PROTEIN RECOMMENDATION

Protein is like a building block for our bodies to use to build muscle, repair damaged tissues, and maintain certain body processes. In order to give your body the tools it needs to build muscle follow the following guidelines.

- .25g/kg body weight is needed every 3-4 hours to promote muscle growth (more than this will have no benefit)
- Eat breakfast every day to activate protein synthesis after a good night's rest
- Protein sources: chicken breast, turkey breast, flank steak, eye of round steak, lean ground beef, pork sirloin, tuna, tilapia, salmon, milk, cottage cheese, yogurt, cheese, tofu, beans and legumes

HYDRATION

The Human Body is composed of 45-70% water which makes it the most important nutrient to replenish on a frequent basis

- Drink a gallon of fluids every day
- Dehydration leads to decrease in endurance
- Thermoregulation is impaired when the body is dehydrated which is a major health concern
- Before a training session: consume at least 2 cups of fluids within two hours of your training session
- During a training session: drink frequently throughout training
- After a training session: replenish fluids lost from training by monitoring body weight and gain back any weight lost with fluids

SUPPLEMENTS

The best source for obtaining performance nutrition is through a well-balanced diet. It is important to know that the supplement industry is not closely regulated and you never know what you’re actually taking. If you choose to use supplements refer to the following resources to help you make safe decisions.

- If using supplements use NSF certified products
  » Visit www.nsf.org for supplement information
- Make sure supplement use is NCAA approved
  » NCAA approved supplements can be found at http://www.ncaa.org/health-and-safety/policy/2013-14-ncaa-banned-drugs

CALORIE NEED

It is very easy to get a general idea of how many calories we need to eat each day. Using these simple formulas you can get an estimate on the amount of Calories you need each day to maintain your current weight. Since these formulas use activity level it is important for you to adjust your calculation throughout the year based on your level of exercise.

Activity Level

- Light: Bodyweight X 17 = Total Daily Calories
- Moderate: Bodyweight X 19 = Total Daily Calories
- Heavy: Bodyweight X 23 = Total Daily Calories
- To lose weight: subtract 300-500 calories from your total.
- To gain weight: add 300-500 calories to your total.

DRUGS & ALCOHOL

Within the world of college athletics there tends to be a lot of alcohol and drug abuse. For an athlete to reach their physical potential it is important that they take control of this area of their life and don't jeopardize their health and their athletic career.

- Alcohol shuts down protein synthesis (mTOR) which will limit muscle growth from training
- Drugs and alcohol cause fatigue which will decrease your performance and your ability to train
- Alcohol will dehydrate you and limit your ability to perform maximal exercise
- May alter your mind and lead you to not care about the important things and people in your life
PERFORMANCE GUIDELINES FOR WEBER STATE FOOTBALL
“Synergy is what happens when one plus one equals ten or a hundred or even a thousand! It's the profound result when two or more respectful human beings determine to go beyond their preconceived ideas to meet a great challenge.”
– Stephen Covey
CHEMISTRY

* Chemistry has helped me to understand nutrition more fully (makeup of macromolecules)
* Explains bodily processes (Excess Protein Excretion, Energy systems)
* Educated me on the effects of alcohol and how the body gets rid of it
* Has provided me with knowledge to understand how supplements may or may not help athletic performance (Creatine)
COMMUNICATIONS

• Has provided me with skills to be able to communicate effectively. (leadership, motivational techniques, etc.)

• Has taught me how to evaluate an organization's communication (Cultural Analysis)

• How to communicate in a professional setting (Public Speaking, decision making, conflict resolution)

• Interpersonal and Small Group Communication
EXERCISE SCIENCE

- Created a basic foundation for nutrition
- Explains the bodies need for Calories
- Taught me how the body responds to exercise and the need for recovery, hydration, and sleep
- Changed my view on supplementation and taught me that we can have our needs met through a balanced diet.
## PROJECT EVALUATION

<table>
<thead>
<tr>
<th>What went well?</th>
<th>What I would do differently</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Was able to create something beneficial for me and athletes</td>
<td>- Survey Trouble (communication)</td>
</tr>
<tr>
<td>- Helped me to put it all together</td>
<td>- Narrow my focus</td>
</tr>
<tr>
<td>- Gained Confidence in the things I’ve learned</td>
<td>- Ask for more help</td>
</tr>
<tr>
<td></td>
<td>- Be more specific</td>
</tr>
</tbody>
</table>
WHAT I LEARNED FROM MY PROJECT

• I have a new understanding of how my three areas of emphasis will help my career.
• Creating a professional paper takes A LOT of work
• It is essential to have others look over your work
• Frequent and clear communication is essential in any project
WHAT IS NEXT?

• Masters Degree
  • MBA / MHA
  • Masters of Professional Communication
  • Masters of Sports Conditioning and Performance
• CSCS Certification
• Career in Strength and Conditioning
  • Long-term Goal: Work in a top 25 FBS football program
Thank You