Kristen Hooten

Mrs. Tatum

AP Language, 2nd Period

03 April 2015

Effects of Nutrition on Swimming

Every athlete wants to feel his best on race or game day. An increased focus on sports in today’s society has prompted a greater degree of dedication to performance. As a result, athletes have extended their efforts off the field, allowing sports-related factors to influence the way they live their daily lives. From sleep and study habits to family vacations and friend groups, many aspects of athletes’ lives depend on their desire for success in the sports arena, but perhaps none is as important as nutrition.

Most sports players understand how crucial of a role proper food and drink choices can play in their athletic success, but selecting the best options can pose major challenges. Although most sports nutrition works toward a common goal, the achievement of optimal athletic performance, members of different sports communities must consider how their sports in particular affect the body, and therefore, how best to help the body fuel and recover. Like the different controllers required for different video gaming systems, athlete nutrition is extremely specific; what works for one is not compatible with all (ANALOGY). The sport of swimming challenges the body in ways different from those of other sports. A combination of quick energy bursts for each race and the stamina needed to make it through a grueling eight hour meet and the ability to recover quickly to swim again early the next morning, swimming demands a unique set of nutritional considerations (POLYSYNDETON).

High school students as a whole often practice unhealthy eating habits, eating everything in sight (HYPERBOLE). This particular habit applies to a significant proportion of swimmers in this age group as well, especially since their rapid calorie burning in the pool prevents any noticeable resulting weight gain. Swimmers seriously struggle (ALLITERATION) to make the correct food choices. On my Tidal Wave Swimming team, the dedicated, goal-oriented swimmers aim toward high levels of athletic achievement. In their attempts to reach this excellence, to qualify for important meets, and even to impress college coaches, swimmers on my team need to be able to perform at their best every time they dive into the pool. Unfortunately, I often hear them complaining about “just not feeling right” or having stomach problems before a big race. These issues, which can negatively affect swimmers in a surprisingly important way, likely result from improper nutrition habits. Swimmers on my team frequently discuss food, sometimes asking each other for pre-race snacking advice, but it seems that no one really has the correct answer to this problem. Ignorance regarding the most effective swim nutrition has the potential to wreak havoc on swimmers’ bodies and their swims, and we must pursue the information necessary to ameliorate this pressing dilemma within the swim community.

**Literature Review**

The swimming community places a great deal of importance upon getting a competitive edge and performing at top levels. Some health experts, coaches, parents, and swimmers maintain that proper nutrition provides the ticket to this edge. Swimmers often develop an interest in nutrition for their sport because “good eating habits promote health, overall wellness, and may even optimize swimming performance” (Castle). Athletes and coaches often relentlessly chase after this optimization of performance, even if it requires increased attention to out of the pool habits; in this case, it affects the at-the-table habits. Coaches, parents, and swimmers themselves may work hard to help the swimmers rise to the top, and monitoring the athletes’ food and drink intake to ensure maximum possible success presents no exception.

More specifically than day to day nutrition, swimmers must focus on their food choices for meet day. Swim meets last for long amounts of time and demand a great deal of the body. Sometimes lasting up to eight hours, meets require athletes to develop appropriate strategies for planning when and what they eat, no easy task (LITOTES). Because swimmers often find it tricky to keep energy levels up during such a long day, they should “fuel consistently throughout the event” (Corbin 65). Frequent calorie intake in small portions enables swimmers to stay fueled without feeling full (ALLITERATION) and sluggish. This method of eating ensures that the athlete never becomes too hungry and that his body stays prepared to perform. After one of these grueling meets, proper recovery helps enable continued success. Optimal recovery requires proper calorie consumption following physical activity regardless of whether or not the athlete feels noticeably hungry. There exists a particular window during which recovery nutrition proves most effective. Experts have suggested that athletes should “take in calories within 45 minutes of receiving [their] medal[s]” or concluding physical activity (Corbin 65). This is the ideal time frame because during this period, the body’s muscles are working to replace their power supply. After strenuous activity, eating and drinking might not seem particularly appetizing, but refueling the body with protein and carbohydrates plays a vital role in allowing adequately recovery of these muscles.

Nutrition experts suggest that consuming small, high carbohydrate snacks prior to races can provide quick energy needed for the short-lived extreme energy exertion associated with swim races. Taking in calories in the right amounts, from the right sources, and at the right times proves crucial to getting adequately amped for a big race. Despite previous claims that athletes should not eat shortly before or during exercise, recently studies show that the body can in fact effectively digest food during exercise and that food should be eaten to beneficially boost blood sugar (Clark 68). Experts claim that taking in “small bursts of nutrition” provides the ideal fueling for races (Leigh). These small amounts of food suggested allow the body to easily digest the food, avoiding unnecessary hindrance of performance. Small but frequent portions seem to function as the most effective method by which to stay fueled during a long meet without crippling the digestive process.

Swimmers are often expected to practice or swim another meet the day right after a meet; therefore, they must to recover quickly and fully. Studies suggest that milk and chocolate milk can serve as great post-exercise recovery choices. Comprised primarily of children and teenage athletes, my swim community should aim for nutritional strategies that focus on the bodies of people within this age group. Chocolate milk has the potential to function as an effective nutritional selection because “milk…provides positive nutrition and health benefits for active children and teenagers” and possesses a unique ration of protein and carbohydrates (Reid 431, Sine). Targeting the correct group and appealing to its members because of its sweet taste, chocolate milk provides a promising option for effective recovery. Additionally, the more natural approach that milk takes, in contrast to that of the carefully engineered sports drinks, gels, and bars, shows major promise, especially in young athletes (Clark 68).

**Research Methodology**

For my research cycle, I plan to pose open-ended survey questions regarding nutritional considerations for swim meets. I will ask my Tidal Wave Swimming Senior group teammates the questions; I have chosen them because they swim at the same level as I do and participate in the meets for which I am exploring ideal nutrition. These teammates relate to the community because they, along with parents and coaches, are members of said community. Analysis and consolidation of my teammates’ answers to these questions should help solve the struggle of swim meet nutrition by providing examples of foods and drinks and their corresponding effects.

*What foods do you eat prior to swim meets?*

This question should allow me to gain an understanding of what foods different teammates prefer to use as fuel on meets days. I expect to find that my teammates prefer a wide variety of different foods and that some have specific choices that they rarely deviate from. Foods mentioned by teammates could serve as an effective solution to the battle of properly eating for swim meets (METAPHOR).

*What foods and drinks do you usually consume during swim meets (between races), and what is your goal in selecting these foods and drinks?*

This question should reveal how and what teammates eat and drink to stay fueled during meets and what their thought processes are when choosing them (or how much thought they put into it). I expect to find that some team members put significant thought into what they eat/drink and some do not put much effort into their decisions. Also, I anticipate that most teammates will talk about eating fruit snacks, fruit,

**Tidal Wave Swimming teammates Samantha Mobley (right) and Ben Buzzelli (left) pass the time between swim events by talking and enjoying a quick, nutritious snack (Mobley).**

nuts, and various energy bars during meets. Answers from this question could help me conclude the best eating strategies for long meets.

*Are there any foods/drinks you make a point to avoid on meet days?*

I will ask this question to see if any teammates have had harmful (ALLITERATION) results from eating certain foods that have caused them to now avoid eating these foods. I am also interested to see if swimmers avoid any foods/drinks solely due to myths or bad reputations surrounding them. I expect to find that some swimmers probably do not give much thought to what they should not eat, but rather, they just worry about the one or two specific foods that they usually go with. This question should help with concluding what not to eat or drink and therefore assist with outlining a meet-day nutrition plan for swimmers who are often confused by what is best to consume.

*Do you make any special considerations for your post-meet nutrition? If so, explain.*

I am asking this question to see how much effort my teammates put into properly fueling their bodies for post-meet recovery. I expect to find that most of my teammates probably make an effort to eat a large amount after meets because they are extremely hungry but that beyond that, they probably do not put a lot of thought into it. Answers from this question should point out the deficit in recovery nutrition knowledge of my teammates and provide an opportunity to assist them in making better choices.

I predict that this method will yield informal, honest results from my teammates and a wide range of information to include in my research process. Also, I think this will give a good representation of both the problem and possible solutions.

Additionally, I will conduct a personal experiment in which I will use the results of these questions to test the benefits of mentioned foods. I plan to conduct the experiment in practice rather than meets so as to not compromise my own swim performance in any way.

**Data Analysis**

I conducted a survey of my Tidal Wave Swimming teammates regarding their nutrition habits for meets. I emailed each (ALLITERATION) of the swimmers in my Senior group on the team with the four questions to which I wanted them to respond. The email format allowed the survey participants to elaborate on their answers as much or as little as they desired and enabled me to neatly organize their electronic responses. Some teammates chose not to participate, but I obtained responses from thirteen different swimmers.

From the survey, I received insightful answers from some of the participants. In answering the question of what they eat before swim meets, eleven of thirteen of the participants mentioned that they make an effort to consume carbohydrates prior to meets, and five of the eleven mentioned pasta consumption specifically. These results illustrate that for the most part, swimmers are well informed that carbohydrates are their best bet for obtaining the energy they need. A few swimmers acknowledged that they must make an effort to incorporate the carb consumption into their breakfasts because swim meets often begin early in the morning.

The survey results showed a large variety of between-event snack preferences, but most participants expressed a common reliance on water with a few mentioning Gatorade as well. With these answers, my teammates demonstrated their understanding of the importance of hydration and expressed that they aim to get energy without feeling overly full but showed discrepancies regarding what the best snacks are. Some mentioned fruits and vegetables, but although these types of foods provide healthy options, expert opinions point toward more carbohydrates and nuts.

When asked what foods they try to steer clear of, several teammates mentioned that they attempt to avoid excessively sugary foods on meet days. Some specifically cited candy and soda as problematic selections, and others claimed that greasy foods make them feel sluggish in the water. These indicated foods align well with what nutrition experts suggest avoiding for optimal performance. Results for this question show that swimmers have a pretty accurate idea of what they should not eat on meet days and that each individual swimmer takes into account how certain foods make him feel in the water.

Overall, the survey results showed that swimmers do not put a large amount of effort into their post-meet nutrition. Of the thirteen participants, six blatantly said that they do not put much consideration into what they eat after meets, and even those who claimed to put some thought into it did not present as clearly structured plans as they had for pre-meet nutrition. These answers indicate that swimmers are not as well informed of the importance of after-meet nutrition as they should be. Because proper protein consumption is vital for effective muscle recovery, swimmers should be taught about the importance of post-meet food and drink choices for obtaining this protein.

This survey provided valuable information as to what swimmers know about the repercussions of their nutrition choices and what they should be further educated on. After collecting my data, I talked to some of my teammates about changes that they could make to benefit swimming performance; the suggestions I made were based on a combination of answers from other participants and expert opinions from my scholarly sources. The small sample size of thirteen participants could present a slight limitation for the results of this study. Additionally, this survey, like most others, provided the opportunity for subjective or untruthful responses which could skew results.

To test the effects of different foods on how swimmers feel in the water, I conducted an informal, personal study. I selected four different snacks that my teammates mentioned and chose one to consume before practice each day for four days and then assessed how my body and stomach felt during practice. The snacks I tested were a Clif Bar, a banana, fruit snacks, and almonds. The differences in how I felt were slight, but I definitely noticed advantages that certain foods had over the others. The fruit snacks tasted good and gave me an initial burst of energy, but I did notice that I became hungry again during practice. The banana did not sit very well in my stomach, and I personally probably would not eat it before swimming in the future. The almonds tasted fine and provided sufficient energy, but I am personally not a fan of nuts. The Clif bar was my favorite because it tasted good and satisfied my hunger for the duration of practice without weighing me down. This test has several very obvious limitations: I was the only participant, so the results were personal and subjective and therefore cannot be used to make any broad conclusions (CONCESSION). Despite its narrow possibilities of application, this study helped me gain a better understanding of my topic and learn what works best for me.

Looking back on the research I conducted, I am pleased with the quality of information I obtained. If I were to repeat the process I might try to formulate the survey questions in a way that would make data interpretation and presentation a bit easier. Ideally, I would have been able to obtain some quantitative results by devising an experiment in which I compare swimmers’ race times after they eat different foods. While this type of study would likely yield me the best results, it would require a long period of time in order to encompass multiple meet opportunities. Additionally, most swimmers take their races very seriously and would likely not be fond of the idea of trying out foods that could potentially throw off their performances in the pool. After conducting the research that I actually did, I can see that my community is comprised of swimmers who work hard both in the pool and in their food choices in order to optimize performance.

**Problem Resolution**

Following my research on swimmers’ meet day eating habits, I conclude that the most effective eating approach varies by individual athlete but for the most part entails a unique pattern of strategically fueling and refueling. My studies illustrate the struggles and discrepancies within my immediate swim community regarding how to eat to optimize performance, but my results, along with information from nutrition experts, provide a guide for improvement in the future. I now see that often times, swimmers’ ignorance regarding the importance of correct eating and drinking habits creates the underlying problem, just as ignorance regarding smoking often leads to lung illnesses (ANALOGY). To assist with the solving of this problem, I will convey my findings to my teammates in order to educate them on basic athletic nutrition.

Following my action research, my team successfully swam (ALLITERATION) at our biggest meet of the short course season, Northern Divisional Championships. Armed with the findings of my research, we carefully planned out snack choices for this intense three day meet to stay properly fuel our bodies. Utilizing my discoveries regarding recovery nutrition, we were able to allow our bodies to be at the top of their game for the five sessions we swam over the course of the three days. Moving forward, my teammates and I will work to continue to adhere to the suggestions made by my findings in order to feel our best at practice and at race time.

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