

What Are The Advantages Of Using High-Tech Suits In Swimming?

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Introduction

In the early 1900s, swimming costumes used to be designed in a manner that was meant to cover nakedness and promote dignity and societal morals. People never used to consider the ease with which one would swim with the costume or instead of the speed at which the swimmers moved. Annette Kellerman, a trailblazer in swimming, was the first individual to introduce swimming garments that showed thighs. This astonished people as it was never expected. However, these new swimming garments were not welcome; they made swimming more comfortable and faster because they were lighter and less bulky.

With the changing times and increase in swimming sports, better swimming garments have been made through the learning of disciplines such as biomechanics of swimming and fluid dynamics (Kunze, Minamizawa, Lukosch, Inami, & Rekimoto, 2017, p. 34). These disciplines focus on making better swimming garments by changing the natural human body shape. They do this by making it compact to give it a figure that is much more adaptable for locomotion in water. Therefore, the idea of wearing revealing garments that uncover the body to make swimming easier has been curbed. The people no longer had to worry about the exposure of their bodies or the bulkiness and fatigue while swimming. The new technology had killed two birds with one stone hence meeting the immediate need that was required.

High Technology Swimming suits were introduced in the year 2004 when Speedo and NASA engineers united to make this unique clothing. This clothing was made from polyurethane, nylon and spandex fabrics, unlike the new swimming costumes that were made of woven fabrics such as cotton and wool. These synthetic materials were considered fit to make swimsuits since they reduced resistance to water and were also repulsive to water. Besides, the garment did not absorb water. This garment made swimming much more comfortable and even improved the sporting experience. According to the 2009 sports reports, more than 130 world records were surpassed from the year 2008 to 2009.

In this research paper, I will highlight the advantages of using High Tech Suits (HTS) in swimming and expound on them as well.

Research Question

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Methods

This study is based on both the qualitative and quantitative methodologies of research to establish the advantages of using High Tech Suits in swimming. Qualitative research methodologies include interviews and histories, while quantitative methods entail measurements through statistical analysis of the collected data.

Study Context

This research was carried out on 20 top-ranking swimmers, such as Michael Phelps, and seven coaches. Fans of swimming sports were also invited to air their views on the use of High Tech Swimsuits.

Methods Of Data Collection

The methods that were used to collect data include interviews, observations, and experiments. Meetings required us to book appointments with the individuals who were to be interviewed, while observation and experimenting needed us to take an active role in collecting the data.

The interviews proved challenging to carry out since some of the interviewees could not be accessed physically. Therefore, we were compelled to carry out telephone interviews with them. Despite the difficulties, we were able to collect enough reliable data from the members who participated.

We also observed the members who were swimming using the High Tech Suits while floating and those who were not using the High Tech Suits in swimming. We gathered useful information from this as we were able to deduce the advantages that those using High Tech Suits had over their counterparts.

We also experimented with the High Tech Suits by using them to swim by ourselves, and it seemed quite easy to use them.

Secondary Data Sources

Secondary data entails data that was collected earlier on by different individuals for different purposes but was still found useful in this particular research.

We obtained this data from the sports department offices concerning the swimming competitions in the previous years where competitors never used High Tech Suits for swimming. Through this information, we were able to make a comparison with the current data.

Literature Review

In the literature review, High Tech Suits are defined as unique swimming garments that are made of synthetic materials such as spandex, nylon, and rubber. These materials are repulsive to water and reduce resistance to water when someone is swimming (Olsen, 2018, p. 3). The garment is manufactured in such a way that it traps a layer of air within it to increase the floating ability of the user in water. It was introduced in 2004 by a company called Speedo with the aim of making swimming more natural and less straining. Many other companies have been able to manufacture the garment in recent years.

The review incorporates a study that was carried out in the years 2008 to 2009. The study identified that the use of High Tech Suits increased the speed of swimming by 4%. Apparently, 43 new world records were set during the swimming competition in Rome in the year 2009. According to a study done by the Feinberg School of Medicine at North-Western University in Chicago, the High Tech Swim Suits gave the swimmers more merit and privilege in their success besides their constant practice and ability (Brammer, Cornett, & Stager, 2017, p. 39). When High Tech Suits became prohibited in swimming competitions, few members could hardly win medals, safe for Michael Phelps, who was an all-time champion in the sport.

The Journal of Strength and Conditioning Research indicates that more members started joining the swimming competition on the introduction of these unique garments for swimming but then withdrew when the costume was banished. The study also states that the suit reduced friction in water by 38%. Similarly, another research indicates that the High Tech Swimsuit can trap some air within it, hence increasing the ability to float while swimming.

In his research, Rance also indicates that the High Tech Swimsuit supports the floating of the swimmer, and therefore, it should not be used as such. He goes further to say that if only the manufacturing technique is altered and the floating effect eliminated, then it can be functional sportswear for swimming. It should be adopted as long as it maintains the purpose of swimming as a sporting activity.

The review focuses on the materials used to make the High Tech Swimsuit and the characteristics of the garment that make it different from all the other swimming costumes. The review, therefore, enables us to deduce the advantages of using this High Tech Swimsuit over the other swimming costumes.

Data Analysis

The interviews, observations, experiments and the systematic literature review were used to analyze the various advantages of using High Tech Swimsuits. The study was done from multiple research documents and was able to reveal the numerous benefits of High Tech Swimsuits.

Findings

In interviewing the twenty swimming champions and seven coaches and doing our observations and experiments, it was established that, first, High Tech Swimsuits improve the floating ability of the swimmer by 38%. It was also determined that it increases the swimmer's speed by 4%. Thirdly, it was discovered that these particular swimming garments prevented minor injuries since they could trap in the air within them to mask the body against various injuries. It was also established that the swimsuits made the body compact giving it an ideal body shape to swim. Lastly, it was discovered that the High Tech Suits moved water smoothly and swiftly as it was made of soft and glossy synthetic materials.

Discussion

According to the study findings, it was found out that High Tech Swimwear reduces injuries of the swimmers. It is due to the ability of the costume to trap air within it and, therefore, act as an insulator towards the body (Rossi, 2017, p. 43). Thus, in the case that one hits an object, one cannot get injured. For the individuals who use two costumes, it is an added advantage since they can have another layer between the suits, making them more protected. The full body costume as well protects by covering both the arms and limbs. It reduces the effect of the cold aquatic environment on the swimmer and, therefore, adapts them much more to the situation. The swimmers can, therefore, be able to spend more extended time in the waters and go for longer distances in their Olympics. It can improve the sporting activity by an increase in the competing intervals for the participants.

Again, the costume makes the body compact, giving it a streamlined shape different from the natural human figure. This streamlined body shape enables the swimmer to move more swiftly in the water (Cameron, 2017, p. 32). It leads to high speed in swimming and hence a result of the unexpected outcomes during the swimming competitions. The compressing of the body does not affect the movement of the body or the breathing system. It only improves the gliding experience of the swimmer.

Similarly, High Tech Suits increase the ability of the swimmer to float. It is achieved through the layer of air trapped within the garment. When an individual finds it easy to glide, it becomes less strenuous when swimming, and therefore, they can swim faster. It reduces fatigue and helps preserve health even in the cold environment of water. Through this, the swimming experience is made much easier

and more enjoyable for the swimmers.

Also, the High Tech Swimsuit enables the swimmer to have a smooth movement through the water by reducing water resistance as a result of the materials used to make this particular garment. The rubber, nylon, spandex, and polystyrene materials are synthetic making the garment smooth and hence less friction.

Finally, the High Tech Swimsuit promotes faster movement by reducing bulkiness since it is made of light material. Apart from being made of a light material, it does not absorb water.

However, there have been many disputes over the use of High Tech Swimsuits. In the USA, the use of swimsuits for young children below the age of 12 years has been prohibited. This is because children from humble backgrounds cannot afford the suit, which is bought at a very high price. This will not be fair for them as they will have to compete without them or be excluded from the competitions.

The International Swimming Federation (FINA) also prohibited the use of swimming garments that are not made of fabrics. It stated that all swimming clothes made of synthetic materials should not be used (Olsen, 2018, p. 53). Their seams and borders also should not be glued but rather stitched. It as well stated that costumes that cover the whole body were not to be worn during competitions. Instead, they were to be short-sleeved. According to Crouse and Karen, the swimming activity should be independent, and the competitor is supposed to use their effort and strength. They further state that if a competitor's ability to float is made more accessible, then there is not enough effort employed. The whole point of using High Tech Swimsuits nullifies the essence of the swimming sport. Therefore, FINA put rules on limiting the amount of material that was being used in making the garments.

The federation also prohibited those competitors who put on more than one suit from doing so. This acted as a disadvantage to competitors who were not able to buy more than one outfit. Due to this, their counterparts could gain the added advantage of winning since it was easier for them to float as a result of multiple layers of trapped air.

On the contrary, Rance argues that the use of technology used to exist in the early 1900s and, therefore, ought to be embraced even in the current age. He says that the High Tech Suits should be adopted thoroughly to make the swimming activity more enjoyable and appealing (Olsen, 2018, p. 23). Besides, he adds that other sports activities use technology, such as golf and tennis and therefore, swimming is no exception. He says that swimsuits that do not support floating should be introduced to get rid of the support gained by competitors while floating. The floating ability of the swimwear can be eliminated by changing the way in which the cloth is manufactured and also improving its material.

Conclusion

From the above discussion, it is clear that the advantages of using High Tech Suits for swimming tend to lean so much on making the sporting activity more comfortable for the swimmer. It lessens the effort of the swimmer, and therefore, they do not have to put a lot of effort into propelling themselves through the water. Ideally, this reduces the whole essence of swimming. Naturally, the human body is supposed to employ its abdominal strength to drive through the water. When the costume gives the support in floating and gliding through, then the effort is not bought at work. Therefore, the High Tech Swimsuits can be of less value to an individual who is aiming at exercising various body muscles.

Besides, the use of High Tech Swimsuits could encourage more people to join the sporting activity not because they desire to but just because they need money. Even those who do not have the talent and ability can join the sport since the effort required is lessened. As a result of this, the activity will become too crowded and lose its meaning.

(Kunze et al., 2017, p. 34) If the High Tech Suits are still used to lessen the effort required of swimmers, they should be left alone and allow the competitors to swim without them. Otherwise, it could be a better idea to incorporate such technology if better ways are sought to manufacture the garment in such a way that it shall not lessen the effort required and the importance of swimming as well.

Reference

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