

## Summary by Anniston Pagano

### Medical Textiles

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A vital aspect of the textile industry is creating materials for medical use. Medical textiles come in all different shapes and sizes. They can be used to create something as simple as a bandage or something more extreme like sutures. Martin Bide, a TMD professor at the University of Rhode Island, discussed his experience with creating medical textiles and shed light on how lengthy the process can be before achieving the final product. In order to have any success in this area of the industry you need to be familiar with innovation in medical textiles, the stages it takes to create them, and what they are being used for.

Innovation in medical textiles is essential in order for their performance to keep improving. Not only do you want to create something new and unique but you also need to ensure that the product is better than existing textiles. Since they are being used for medical purposes it is important for them to efficiently meet their expectation. The driving force of the textile is the first thing you need to consider in the production process. This often tends to be connected to money in some shape or form because people want to either make or save money with their product. For example, colored sutures has sparked a conversation in the textile industry. This idea has ultimately been dismissed because it would take a lot of time and effort with no reward in return. This is a main reason why black sutures are commonly used.

Bide spoke about the different stages of innovation that aid in the creation of medical textiles. The first stage is In Vitro which consists of lab experiments and determines whether or not the textile has potential. This can be performed by various different institutions such as hospital labs, Universities, or fiber companies. The second stage is In Vivo which often consists of using animals to test the product. Animal care facilities are required during this step in order to accurately examine the results. It should be clear by the end of this stage if the textile is heading in the right direction. The final stage is performing clinical trials in human patients. For this step to occur the creator needs to be immensely confident that the textile will achieve its intended goal.

All of this work would be pointless without understanding what the textile is being used for. For instance is the product being used for structural purposes such as strength, support, or binding, or is it just there to assist in the healing process? It is also vital to consider whether or not the textile is expected to last for the rest of the patient's life. Medical textiles don't always have to be permanent. They can also be passive which has a lower risk factor. Considering whether a textile is going to be temporary or long lasting is an important step in the production process.

Medical textiles are not what comes to mind when people think of the textile industry, but everyone has or will come in contact with them at some point in their life. It is essential for them to keep evolving alongside new medical developments. The process of creating these textiles is extensive, but by obtaining knowledge on the topic and following the different stages you can find success.