

GORE-TEX Vascular Grafting

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Due to unhealthy eating habits, there is a large occurrence of clogged arteries and impaired blood flow through the vascular system of many Americans. Also, it has been found that certain types of skin, heart and lung cancer have contributed to arterial breakdown. In order to prevent thousands of people from dying every year due to heart failure, medical research has found the solution: Vascular grafting.

Vascular grafting is an artificial artery that is surgically grafted to a patient's existing, failing artery. Once secured, blood will flow through the tubing connecting two or more damaged or blocked arteries. This tubing is placed subdermal, running from two inches to the length of the patient in length. This tubing is a ridged and flexible, much like those whistling toys used by children. It is made of a compound called GORE-TEX.

The company GORE-TEX has created its product that has been used in thousands of cases all over the world. It comes in many diameters and from four millimeters to 1 inch in diameter. It is a ridged tube that is very strong, durable, lightweight and organic.

GORE-TEX has been used in this application since the early 90's, but is better known for its waterproofing capabilities in rainwear, boots, tents etc. Also known as polytetraflouroethylene, it is one of the most chemically inert and biocompatible polymers known to man. It was invented in 1969 by Robert Gore.

.....GORE-TEX is a semi-permeable membrane that consists of many polytetraflouroethylene strands woven together. This weave is so tight that the holes in between the strands are barely large enough for water vapor to pass through. Therefore, it is tight enough to be leak proof, but also cell permeable. The gaps between fibers allow cells to saturate into the weave and grow onto it as if it were a human artery. In many cases his removes the need for the patient to have to take anti-rejection medication.

This application of GORE-TEX in the field of arterial reconstruction is miraculous. Although the procedure can be a bit drawn-out and painful, the results are grand and complications are minimal.

<http://www.ctsnet.org/wlgore/product/310>

http://www.littoralis.com/site/intnews/htm/tti_20020901.691598.htm

<http://www.gore.com/corp/divisionswithenduring.html>

<http://www.emedicine.com/ent/topic376.htm>

<http://crs.ase.tufts.edu/courses> (click preview)