BioMEMS implants for neural regeneration after a spinal cord injury

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Abstract

Functional restoration is one of the major obstacles for spinal cord traumatic patient. Neural Regeneration is considered one of the strategies for functional recovery after spinal cord injury. Neurons can regenerate if they are provided with the favorable environment. Substantial efforts have been directed at understanding the central nervous system environment and the means of modifying it to an appropriate medium for neural regeneration. Over the past decade BioMEMS implants have been used as neural interfaces for promoting axon growth. This article reviews the usage of BioMEMS implants as electrical stimulation neural interface and as hybrid ones. Animal experiments of these neural interfaces have presented important results that hopefully the treatment for injured spinal cord will be developed in the near future.

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