

BMI for Neurosurgical Application

신 형 철

한림의대 신경외과

Devices based on brain-machine interface (BMI) neurotechnology hold promise for the restoration of normal body function in patients suffering from devastating deficits caused by brain injury, neurologic diseases and limb loss. During the last decade, considerable progress has been achieved in this multidisciplinary BMI research. However, a considerable number of problems need to be resolved before fully functional devices applicable for neurosurgery can be realized. To move towards developing such devices for humans, BMI research has to address a number of issues related to improving the quality of neuronal recordings, achieving stable, long-term performance, and extending the BMI approach to a broad range of motor, sensory and integrative functions. Here, I review the future steps to bring this new neurotechnology to clinical fruition.

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