

Adoption of graphene materials in medicine

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Graphene materials have entered a phase of maturity in their development that is characterized by their explorative utilization in various types of applications and fields from electronics to biomedicine. Various recent advances have been made at the proof-of-principle level with graphene-related materials in a wide range of biomedical applications [1]. Graphene materials today have mainly been explored as components of biosensors and for construction of matrices in tissue engineering, along with their antimicrobial activity and their capacity to act as drug delivery platforms [4]. This emerging landscape will be discussed in the context of three main categories of biomedical applications: a) devices; b) matrices, and c) transporter systems. Each of these categories has different requirements and specifications that can be met only after careful selection of specific, well-characterised types of graphene materials [2]. The combination between graphene material type [3] with each specific application will determine the challenges and limitations to confront graphene-based constructs as they are explored further towards clinical use. Overall, this talk will attempt to offer some perspective as to which areas of biomedical applications we can expect graphene-related materials to constitute a tool that can offer improved functionality.

References

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