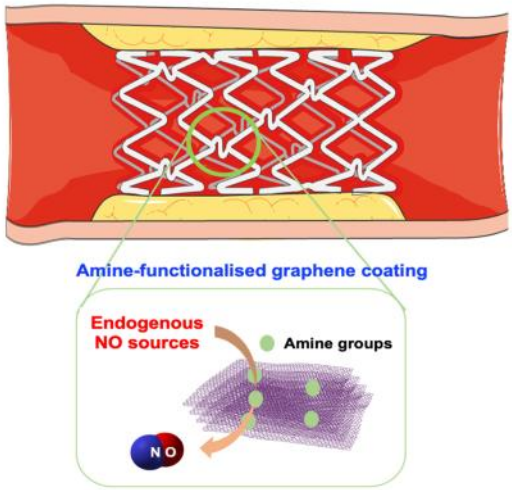
PROJECT NUMBER

**22031**

# Method for creating a nitric oxide generating coating for medical devices

A method for generating therapeutic gas, nitric oxide (NO), from a coating of amine-functionalised graphene that can be used for medical devices, such as stents.

**Applications:** Medical devices for cardiovascular disease, Cerebrovascular disease, Eye diseases and aneurysms




| Features | Benefits |
|---|---|
| Novel amine-functionalised graphene oxide material that generates NO, negating external NO sources | Allows commercially viable in-vivo NO generating medical devices to be engineered |
| Method provides a stable and strong coating that can be added to medical devices, and the coating thickness can be easily varied | Maintains structural integrity and is non-toxic; Coating biodegradable medical devices has minimal effect on their degradation |

| Features | Benefits |
| --- | --- |
| The coating generates therapeutic levels of NO in a sustained, controlled and slow manner at the site of need in the body, with trials ongoing | Reduces the risk of medical complications after implantation of a medical device such as restenosis, bacterial infection and biofilm formation |
| Straightforward and simple application of the coating using a dip coating method | Can easily apply a smooth and uniform coating to complex 3D geometries and form factors; Cost-effective functionalisation approach; Scalable method of manufacturing medical devices |

## Patented and Available for

- Co-development
- Consulting
- Licensing

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To find out more, contact enquiries@innovation.ox.ac.uk and quote the project number.

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