

Pros and Cons of Nanoparticles on Health

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Abstract : Nanoparticles (NPs) are tiny particles. According to the International Organization for Standardization, the size range of NPs is in the nanometer range (1-100 nm). They show distinct properties that are not shown by larger particles of the same material. NPs are currently being used in different fields due to their unique physicochemical nature. NPs are a boon for medical sciences, environmental sciences, electronics, and textile industries. However, there is growing concern about their potential adverse effects on human health. This poster presents a comprehensive review of the current literature on the pros and cons of NPs on human health. The poster will discuss the various types of interactions of NPs with biological systems. There are a number of beneficial uses of NPs in the field of health and environmental welfare. NPs are very useful in disease diagnosis, antimicrobial action, and the treatment of diseases like Alzheimer's. They can also cross the blood-brain barrier, making them capable of treating brain diseases. Additionally, NPs can target specific tumors and be used for cancer treatment. To treat environmental health, NPs also act as catalytic converters to reduce pollution from the environment. On the other hand, NPs also have some negative impacts on the human body, such as being cytotoxic and genotoxic. They can also affect the reproductive system, such as the testis and ovary, and sexual behavior. The poster will further discuss the routes of exposure of NPs. The poster will conclude with a discussion of the current regulations and guidelines on the use of NPs in various applications. It will highlight the need for further research and the development of standardized toxicity testing methods to ensure the safe use of NPs in various applications. When using NPs in diagnosis and treatment, we should also take into consideration their safe concentration in the body. Overall, this poster aims to provide a comprehensive overview of the pros and cons of NPs on human health and to promote awareness and understanding of the potential risks and benefits associated with their use.

Keywords : disease diagnosis, human health, nanoparticles, toxicity testing

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