

Title: “Newer Trials in Vaccine Research”

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Vaccination is a public health intervention used to stimulate protective immunity against infectious diseases. Traditional vaccines are made from whole attenuated or inactivated microorganisms that induce strong and long-lasting immune responses. Regardless of their high immunogenicity, the major drawback of traditional approaches is the presence of immunologically redundant components or biological impurities in the vaccines, which have the potential to induce allergic or even autoimmune responses in humans. Attenuation is not always sufficient to ensure the safety of vaccinations, as processed pathogens can return to their active form. The production and distribution of traditional vaccines may also be limited by pathogens’ requirements for special conditions during culturing, storage & transportation. Improving the anticipated benefits (**efficacy**) of immunization while decreasing their potential risks (**adverse reactions**) underpins the development of all new vaccines and is a key factor driving new technologies and sophisticated vaccine design.

In the 21st century the technical challenges facing development of new vaccines are two-fold: the first challenge relates to the characteristics of the pathogens themselves, and the second to the characteristics of the target populations. Multiple approaches exist to address these challenges. WHO also works to accelerate development and approval of new vaccines and delivery technologies, as well as to assist low and middle income countries in implementing their immunization programs.

This presentation will discuss about newer trials in vaccine research under the following headings:

- **New Trials in vaccine preparation and delivery technique** (nano particle covering of the adjuvant, use of probiotics as an adjuvant and use of microarray patches and other techniques for vaccine delivery)

- **New trials in vaccine research for specific diseases** (for which vaccines are already available and also diseses for which no vaccines are available - **new vaccine trials**).

- **Newer vaccines in pipeline** (to be available in newer future).

Biography:

Dr N P Singh is a practicing pediatrician and senior consultant & unit head at Medeor hospital, Dwarka, New Delhi, India. He passed his doctor of medicine (MD) from prestigious Safdarjang Hospita, New Delhi, India. He has more than 18 years of post PG experience. He has special interest in immunology and vaccine research. He has been delivering his talks in various conferences in India both at regional as well as nationallevel.

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