Vaccines

This learning journey is designed to introduce vaccines, their history, importance, and how they work. Discovery strategies, development guidelines, delivery platforms and adjuvants are also discussed in this journey.



Vaccines: History

Extract from: **'Vaccination'** Dr. Anita Milicic – University of Oxford, UK _{4 mins}

Approaches to Nonclinical Vaccine Development



Dr. Lisa Plitnick, PhD. Therapeutic Area Lead for Vaccines Merck & Co., Inc. USA

Importance of Vaccination

Extract from: **'Approaches to nonclinical vaccine development'** Dr. Lisa Plitnick – Merck & Co., Inc., USA _{3 mins}

A Brief History of Vaccines and Anti-Vax Responses

Importance of Vaccine Mandate

Extract from:



and Molecular Biophysics Washington University in St. Louis, USA **'A brief history of vaccines and anti-vax responses: the anti-vax movement part 2'** Prof. Michael Kinch – Washington University in St. Louis, USA 4 mins

Vaccination



Vaccines: How Do They Work?

Extract from: **'Vaccination'** Dr. Anita Milicic – University of Oxford, UK _{3 mins}

Successes and Failures with Vaccines

U P

University of Pennsylvania Philadelphia, PA, USA

Strategies for Vaccine Discovery

Extract from: **'Successes and failures with vaccines'** Prof. Stanley Plotkin – University of Pennsylvania, USA _{5 mins}

Approaches to Nonclinical Vaccine Development



Dr. Lisa Plitnick, PhD. Therapeutic Area Lead for Vaccines Merck & Co., Inc. USA

Guidelines for Vaccine Development

Extract from: **'Approaches to nonclinical vaccine development'** Dr. Lisa Plitnick – Merck & Co., Inc., USA 4 mins

Vaccine Delivery

Vaccine Formula

Extract from: **'Vaccine Delivery'** Prof. Sevda Şenel – Hacettepe University, Turkey _{3 mins}





Vaccine Platforms Including Subunit Vaccines

Extract from: **'Vaccination'** Dr. Anita Milicic – University of Oxford, UK 7 mins

RNA Therapeutics: Clinical Applications and Methods of Delivery



Prof. John P. Cooke MD PhD Founding Director, Center for RNA Therapeutics Chief Translational Science Officer, Houston Methodist Research Institute Houston, Texas, USA

mRNA Vaccine *vs.* Viral Vector Vaccine

Extract from: 'RNA therapeutics: clinical applications and methods of delivery'

Prof. John P. Cooke – Houston Methodist Research Institute, USA ² mins

Usage of Vaccines and Therapeutics in Public Health Emergencies Part 1 of 2



Professor Gary Kobinger Director, Infectious Disease Centre Laval University, Québec, Canada Vaccine Development: Duration, Process and during emergency

Extract from:

'Usage of vaccines and therapeutics in public health emergencies part 1' Prof. Gary Kobinger – Laval University, Canada 5 mins

Vaccine Delivery



Sevda Şenel Professor of Pharmaceutical Technology Hacettepe University, Faculty of Pharmacy Ankara, Turkey Vaccine Delivery: Routes and Systems

Extract from: **'Vaccine Delivery'** Prof. Sevda Şenel – Hacettepe University, Turkey ⁶ mins

Vaccination

Dr. Anita Milicic Lead of Vaccine Formulation Group The Jenner Institute University of Oxford, UK

Vaccine Adjuvants: Types and Properties

Extract from: **'Vaccination'** Dr. Anita Milicic – University of Oxford, UK _{4 mins}

RNA Therapeutics: Clinical Applications and Methods of Delivery



Prof. John P. Cooke MD PhD Founding Director, Center for RNA Therapeutics Chief Translational Science Officer, Houston Methodist Research Institute Houston, Texas, USA

Examples of mRNA Vaccines

Extract from: **'RNA therapeutics: clinical applications and methods of delivery'** Prof. John P. Cooke – Houston Methodist Research Institute, USA ² mins

Vaccines and the Fight against Antimicrobial Resistance



Dr. Annaliesa S. Anderson, PhD VP & CSO Bacterial Vaccines Pfizer Vaccine Research and Development USA

How Vaccines Fight against Antimicrobial Resistance?

Extract from: **'Vaccines and the fight against antimicrobial resistance part 1'** Dr. Annaliesa S. Anderson – Pfizer Vaccine Research and Development, USA 3 mins

Vaccines and the Fight against Antimicrobial Resistance



Dr. Annaliesa S. Anderson, PhD VP & CSO Bacterial Vaccines Pfizer Vaccine Research and Development USA

Part 2

Barriers to Maximizing Vaccine Use and the Davos Declaration

Extract from:

'Vaccines and the fight against antimicrobial resistance part 2' Dr. Annaliesa S. Anderson – Pfizer Vaccine Research and Development, USA

3 mins