

# National Institutes of Health Update

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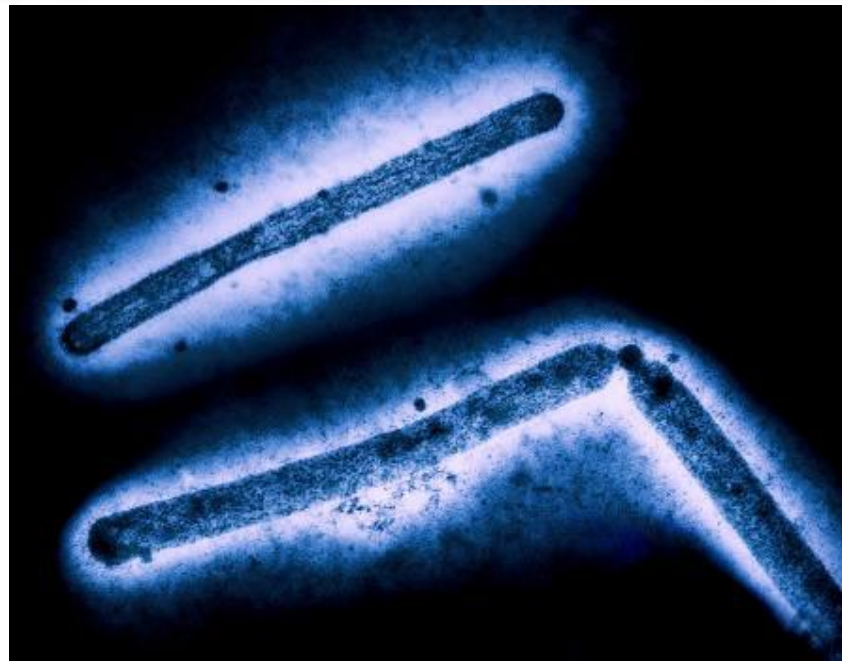
July 2024



# **Influenza Update**

# NIH Releases H5N1 Influenza Research Agenda

*Understanding Virus Biology, Advancing Detection,  
Treatment and Prevention Strategies Are Key Objectives*



Three influenza A (H5N1/bird  
flu) virus particles (rod-shaped).  
Credit: CDC and NIAID

## Infectious H5N1 Influenza Virus in Raw Milk Rapidly Declines with Heat Treatment

## High H5N1 Influenza Levels Found in Mice Given Raw Milk from Infected Dairy Cows

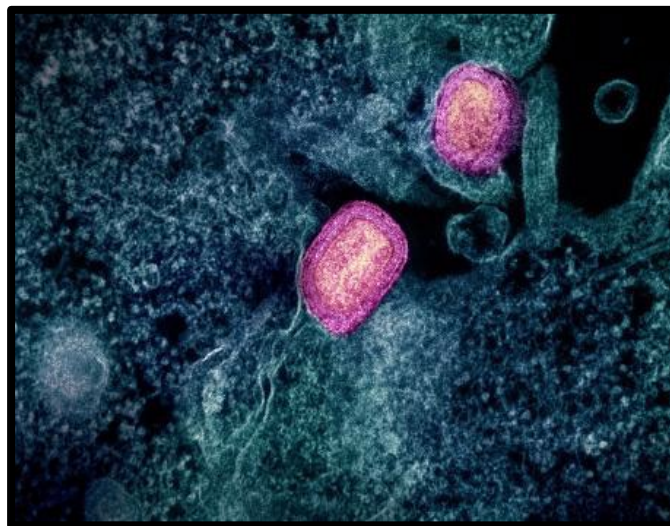
F Kaiser *et al.* Inactivation rate of highly pathogenic avian influenza H5N1 virus (clade 2.3.4.4b) in raw milk at 63 and 72 degrees Celsius. *The New England Journal of Medicine* (2024 June 14)

G Lizheng *et al.* Cow Milk Containing H5N1 Influenza Viruses—Heat Inactivation and Infectivity in Mice. *The New England Journal of Medicine* (2024 May 24)

# **Mpox Update**

## Lower Dose of Mpox Vaccine Is Safe and Generates Six-Week Antibody Response Equivalent to Standard Regimen

*Study Highlights Need for Defined Markers of Mpox  
Immunity to Inform Public Health Use*



Colorized transmission electron micrograph of two mature mpox virus particles (pink) attached to the surface of an infected VERO E6 cell (blue/teal).

*Credit: NIAID*

# **HIV/AIDS Update**

# HIV/AIDS Research

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National Institute of Allergy and  
Infectious Diseases (NIAID)

<http://www.niaid.nih.gov>

June 4, 2024

## U.S. Clinical Trials Begin for Twice-Yearly HIV Prevention Injection

*Studies Will Focus on Priority Populations Underrepresented  
in HIV Clinical Research*



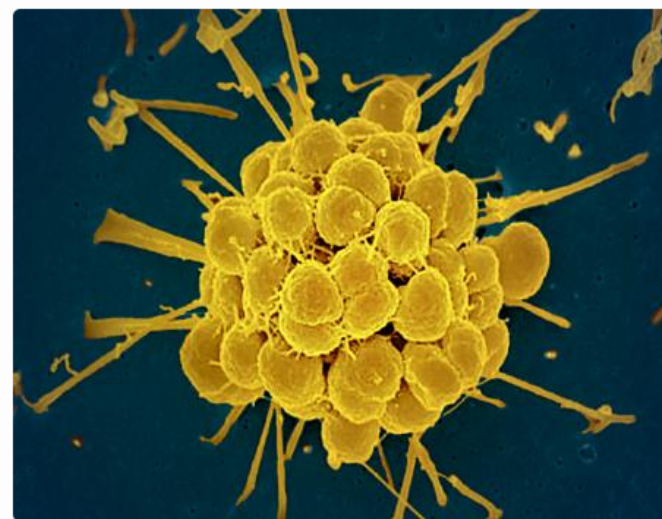
# **STI Update**

# Exploring a Meningitis Vaccine for Gonorrhea Prevention

[NIAID Now](#) | May 10, 2024

A preventive vaccine for gonorrhea would be a major advance in public health, according to an editorial co-authored by NIAID Director Jeanne Marrazzo, M.D., M.P.H, and Myron Cohen, M.D., director of the Institute for Global Health and Infectious Diseases at the University of North Carolina at Chapel Hill. The editorial, published in the *Journal of Infectious Diseases*, provides context on new mathematical modeling projecting the cost-effectiveness of the meningitis B vaccine 4CMenB, which is currently being evaluated as a preventive intervention for gonorrhea.

[Gonorrhea](#), a common sexually transmitted infection, afflicts more than 80 million adults each year, according to the World Health Organization. It is caused by the *Neisseria gonorrhoeae* bacterium. Untreated gonorrhea can lead to serious and permanent health conditions, such as pelvic inflammatory disease, painful swelling and blockages in male reproductive organs, and infertility. While usually treatable with antibiotics, *N. gonorrhoeae* bacteria have demonstrated resistance to most existing classes of antibiotics. The genetic sequences of *N. gonorrhoeae* and *Neisseria meningitidis* group B, the bacteria that can cause meningitis B, are closely related, which have led researchers to explore whether the 4CMenB vaccine, [approved by the Food and Drug Administration for meningitis B](#), might also prevent gonorrhea.



Scanning electron micrograph of *Neisseria gonorrhoeae* bacteria, which causes gonorrhea.

Credit: NIAID

# **Ebola Update**

# Ebola Research

[NIAID Now](#) | April 3, 2024

## Experimental Ebola Vaccines Found Safe and Capable of Producing Immune Responses in Healthy Adults

***NIAID-developed Vaccines May Provide Flexibility and Choice Among Ebola Vaccines***

M Happe, AR Hofstetter, *et al.* Heterologous cAd3-Ebola and MVA-EbolaZ vaccines are safe and immunogenic in US and Uganda phase 1/1b trials. *npj Vaccines* (2024 Mar 29)

AR Hofstetter, M Happe, *et al.* Clinical Testing of the cAd3-Ebola and MVA-EbolaZ vaccines. *Springer Nature Research Communities* (2024 Mar 29)

# **Food Allergy Update**

# Introducing Peanut in Infancy Prevents Peanut Allergy into Adolescence

## NIH Study Finds Protection Lasts No Matter How Often Kids Eat Peanut in Later Childhood

May 28, 2024

Feeding children peanut products regularly from infancy to age 5 years reduced the rate of peanut allergy in adolescence by 71%, even when the children ate or avoided peanut products as desired for many years. These new findings, from a study sponsored and co-funded by the National Institutes of Health's National Institute of Allergy and Infectious Diseases (NIAID), provide conclusive evidence that achieving long-term prevention of peanut allergy is possible through early allergen consumption. The results were published today in the journal *NEJM Evidence*.



Silhouettes of infants, young children and teenagers, along with illustrations of lunch-food containers typical for each age group.

Credit: NIAID

# **NIH Updates**

# NIH Director's Blog

## Speeding the Diagnosis of Rare Genetic Disorders with the Help of Artificial Intelligence

Posted on May 16th, 2024 by [Dr. Monica M. Bertagnolli](#)



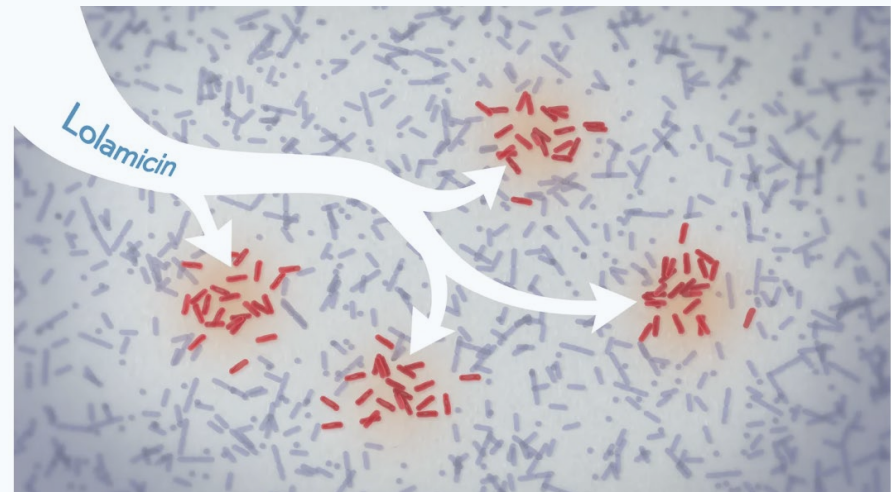
Credit: Donny Bliss/NIH, Qpt/Shutterstock, taka/Adobe Stock

D Mao *et al.* AI-MARRVEL: A Knowledge-Driven Artificial Intelligence for Molecular Diagnostics of Mendelian Disorders. *The New England Journal of Medicine* (2024 April 25)

P Liu *et al.* Reanalysis of Clinical Exome Sequencing Data. *The New England Journal of Medicine* (2019 Jun 20)

## Antibiotic Compound Kills Hard-to-Treat, Infectious Bacteria While Sparing Healthy Bacteria in the Gut

Posted on June 20, 2024 by [Dr. Monica M. Bertagnolli](#)



In a new study, an antibiotic compound, lolamicin, targeted infectious, gram-negative bacteria without harming the gut microbiome. Credit: Donny Bliss/NIH

KA Muñoz *et al.* A Gram-negative-selective antibiotic that spares the gut microbiome. *Nature* (2024 Jun)



# Thank you