

Global Health Cast 53

December 5th, 2023



Dr. Melvin Sanicas

X @Vaccinologist



Prof. Dr. Joe Schmitt

X @Prof_Schmitt

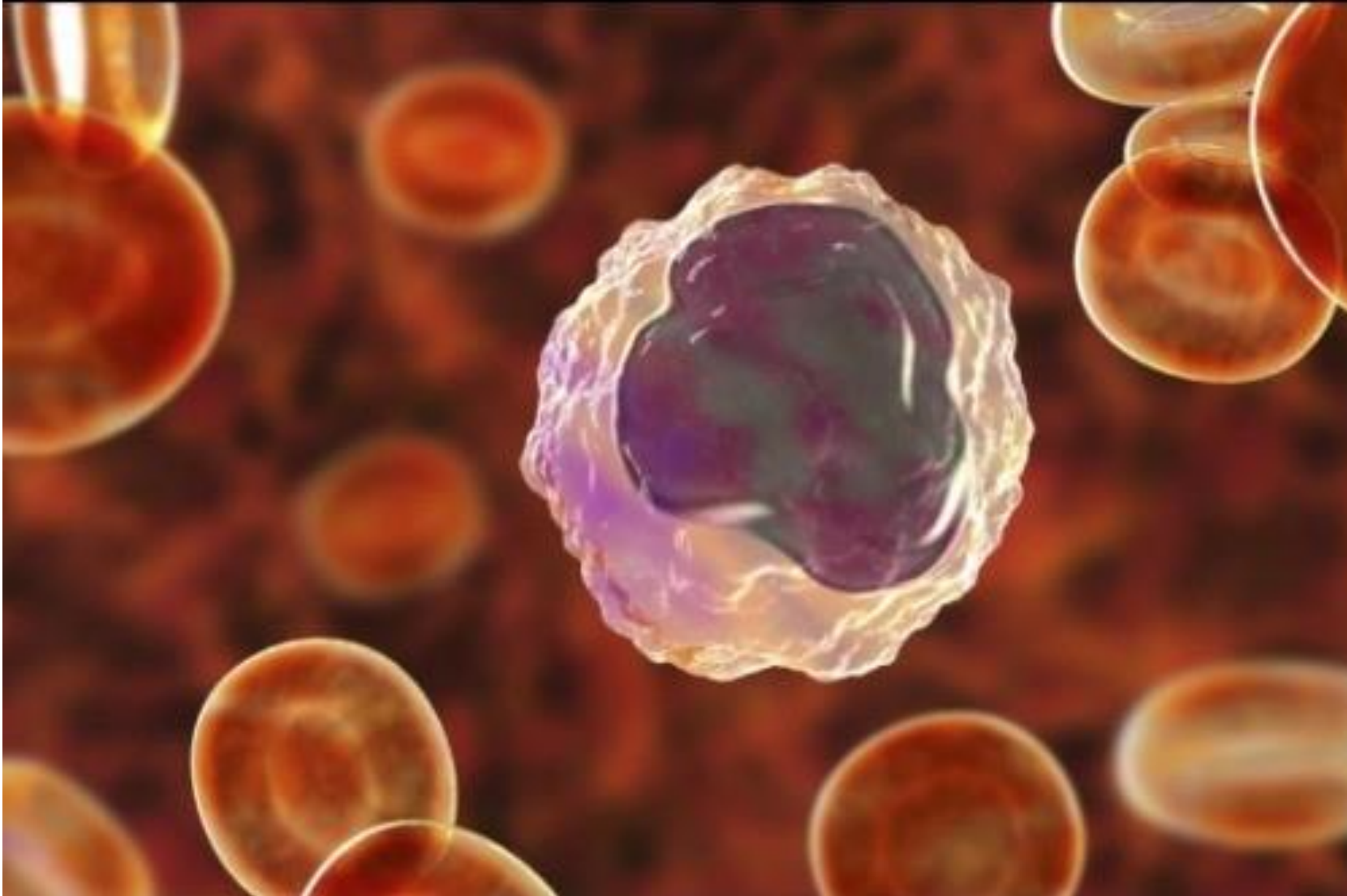
Every Week

12.00 noon - CET

What we talk about today

- **New route for COVID-19 infection of human cells discovered**
- **Adherence to healthy dietary patterns can prevent non-communicable diseases and increase life expectancy**
- **Commentary from Singapore-based infectious disease experts: Why Singapore needs a dengue vaccine**
- **Anthrax kills at least 17 in Uganda**
- **First Chikungunya vaccine licensed by FDA: IXCHIQ**

**New route for COVID-19 into human cells:
in addition to the ACE2 receptor, SARS-CoV-2 can
also bind to the RAGE receptor in white blood cells**



Life expectancy can increase by up to 10 years following sustained shifts towards healthier diets in the United Kingdom

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 Check for updates

Lars T. Fadnes ^{1,2}✉, Carlos Celis-Morales ^{3,4}, Jan-Magnus Økland ^{1,5}, Solange Parra-Soto^{3,6}, Katherine M. Livingstone ⁷, Frederick K. Ho ⁸, Jill P. Pell ⁸, Rajiv Balakrishna¹, Elaheh Javadi Arjmand ^{1,2}, Kjell Arne Johansson^{1,2,5}, Øystein A. Haaland ^{1,5} & John C. Mathers⁹

Adherence to healthy dietary patterns can prevent the development of non-communicable diseases and affect life expectancy. Here, using a prospective population-based cohort data from the UK Biobank, we show that sustained dietary change from unhealthy dietary patterns to the Eatwell Guide dietary recommendations is associated with 8.9 and 8.6 years gain in life expectancy for 40-year-old males and females, respectively. In the same population, sustained dietary change from unhealthy to longevity-associated dietary patterns is associated with 10.8 and 10.4 years gain in life expectancy in males and females, respectively. The largest gains are obtained from consuming more whole grains, nuts and fruits and less sugar-sweetened beverages and processed meats. Understanding the contribution of sustained dietary changes to life expectancy can provide guidance for the development of health policies.

Commentary: Why Singapore needs a dengue vaccine

There have been big outbreaks of dengue every year since 2019 in Singapore. Our success in controlling the number of Aedes mosquitoes is no longer sufficient, says Duke-NUS Medical School's Ooi Eng Eong and Shirin Kalimuddin.



Anthrax outbreak: Kyotera death toll now rises to 17

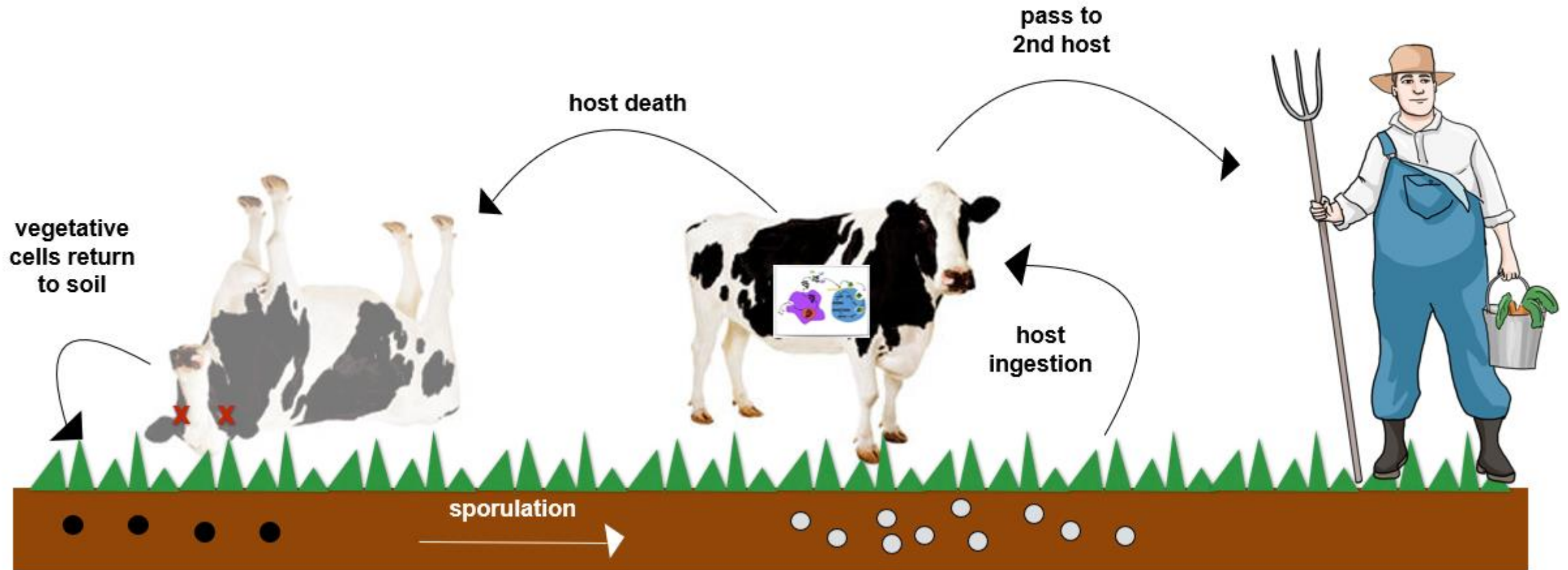
Wednesday, November 29, 2023



Anthrax is caused by a bacteria known as Bacillus anthracis. It occurs naturally in soil and commonly affects domestic and wild animals.

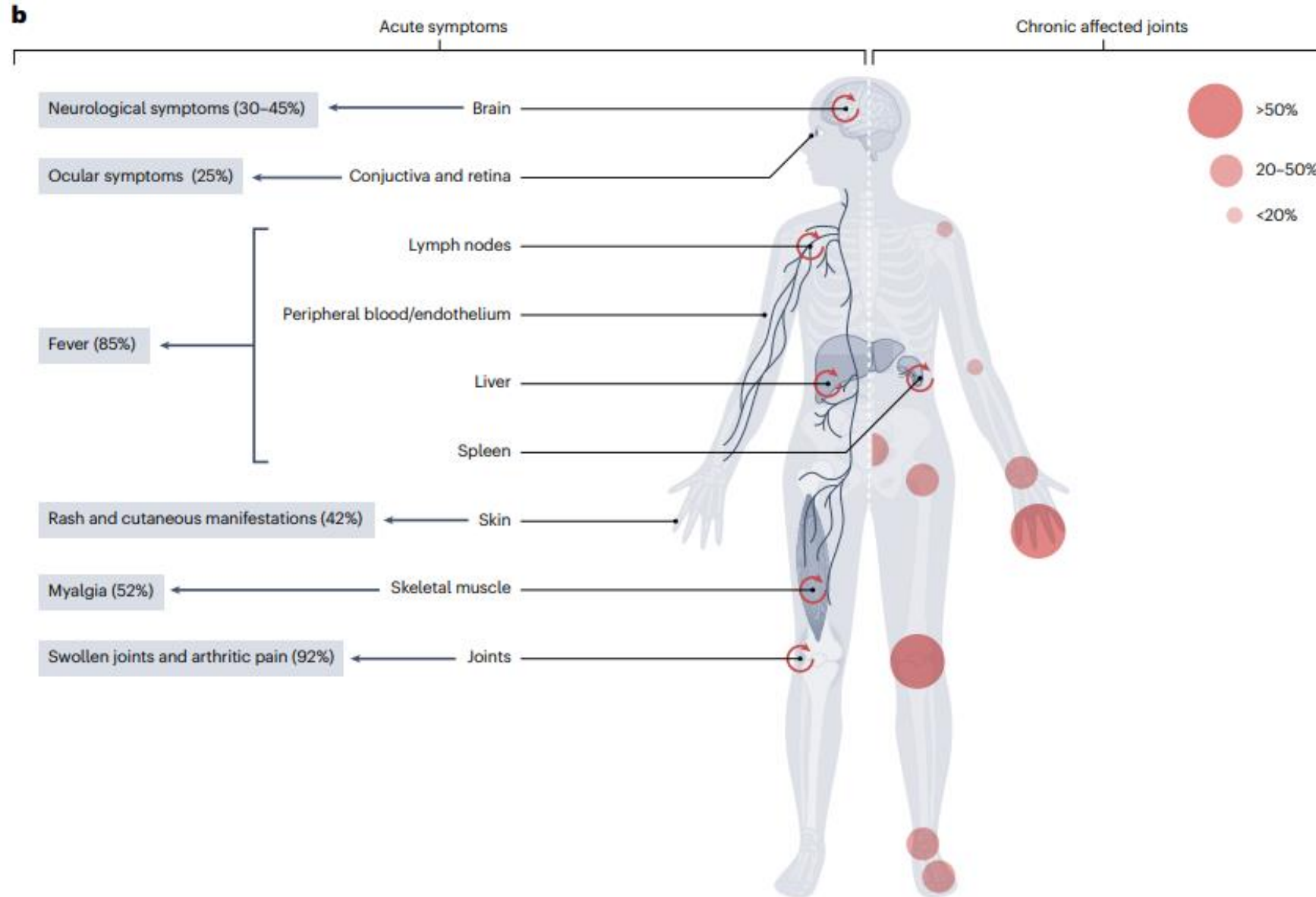
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Anthrax Life Cycle

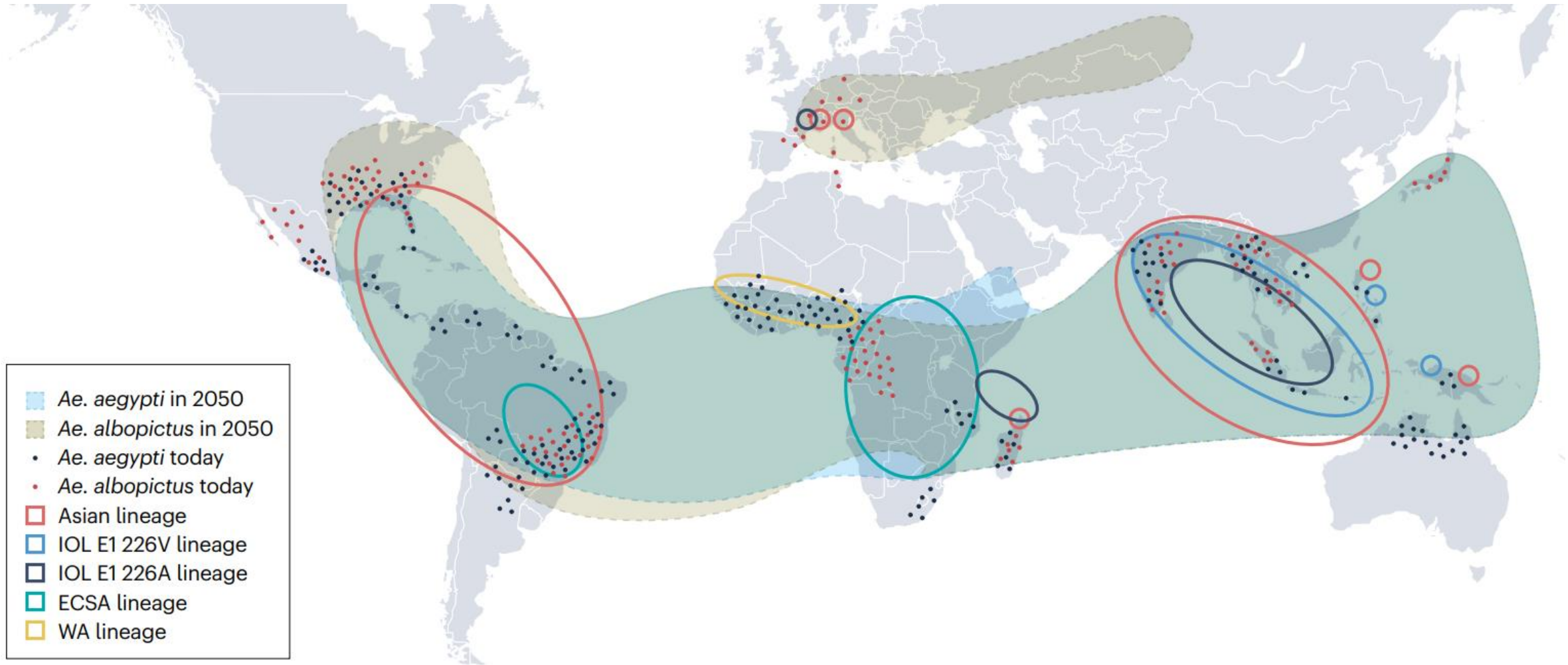


Anthrax disease is caused by a bacterium, *B. anthracis*, that causes widespread death in ruminant (grazing herbivore) species. It can be passed to a second host through inhalation, cutaneous contact, or undercooked meat from infected animals.

Chikungunya: clinical symptoms



Chikungunya – endemicity



CHKV- vaccines candidates

Vaccine	Type	Chikungunya virus lineage	Chikungunya virus strain	Advantages	Limitations	Status	Refs.
VLA1553	Live-attenuated virus	East Central South African	La Réunion Island, 2006	Rapid immune response (<14 days); single dose	Transient arthralgia and fever; cannot use in pregnancy or immunocompromised; durability >1 year unknown	FDA Licence November 2023	Wressnigg et al. ²⁰¹ , Roques et al. ²⁰²
PXVX0317	Virus-like particle plus adjuvant	West African	Senegal, 1983	Rapid immune response (<14 days); durable immune response (2 years); thermostable; single dose; platform safe in pregnancy and immunocompromised	Requires an adjuvant	Phase III study, ongoing	Chang et al. ²⁰⁴ , Goo et al. ²⁰⁵ , Bennett et al. ²⁰⁶
V184	Measles vector	East Central South African	La Réunion Island, 2006	Platform based on the highly safe, effective and durable measles vaccine; also boosts measles immunity	May require 2 doses; durability >224 days unknown; cannot use in pregnancy or immunocompromised	Phase III study, not started	Reisinger et al. ²⁰⁹ , Ramsauer et al. ²¹⁰
BBV87	Inactivated virus plus adjuvant	East Central South African	India, 2006	Thermostable; platform safe in pregnancy and immunocompromised	Phase I data not published yet; requires 2 doses; requires an adjuvant	Phase II/III study, ongoing	CEPI press release ²²⁰

FDA-Product Profile: IXCHIQ[®] (MAH: Valneva)

Live-attenuated Chikungunya-Virus (CHKV) vaccine (La Reunion Strain (LR2006-OPY1))

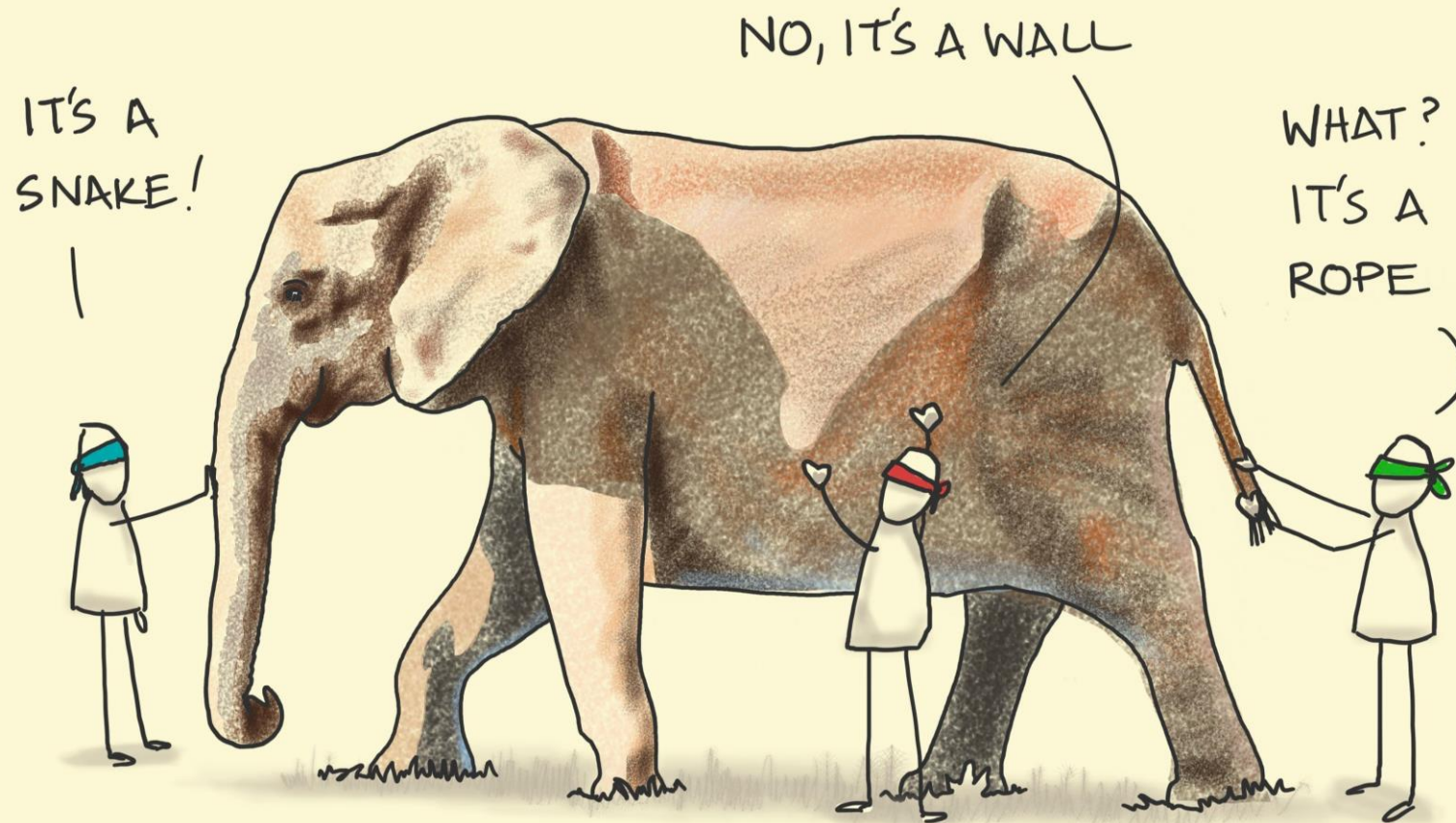
Production/Platform	Live-attenuated Chikungunya-Virus (CHKV) vaccine (La Reunion Strain (LR2006-OPY1))
Strain coverage	Cross-neutralization to other strains
Indication	Adults ≥ 18 years at increased risk of CHKV-exposure
Dosing	1 dose i.m.
Contraindication	Allergy; pregnancy (viremia!), immunocompromised hosts
Immunogenicity	98.9% sero-response by NT at 28 days post vaccination; 96.3% at 6 months p.v.
Efficacy/ Effectiveness	No protection data available – Licensed based in NT responses
Duration / boosters	Unknown
Co-Administration	n.a.
Reactogenicity	High reactogenicity, chikungunya-like disease (viremia) days first week through day 14
Safety, special warnings	Severe or prolonged chikungunya-like disease preventing daily activities /requiring medical intervention in 1.6% (of n=3,082) of vaccinees; hypovolemic hyponatremia; atrial fibrillation. ≥ 30 day (prolonged) CHK-like disease. Viremia through day 14; leukopenia; syncope
Vaccination Goal	Individual protection for those with high exposure risk

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THE BLIND AND THE ELEPHANT

OUR OWN EXPERIENCE IS RARELY THE WHOLE TRUTH



sketchplanations