



Medical Innovation Newsletter issue March 2022



NATO MILMED COE
Lessons Learned and
Innovation Branch (LL&IB)

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Vigorous Warrior 22 TTX - Casualty Move 22 Table Top Exercise TTX (VW'22-CAMO'22)

It will take place in the Hungarian Defence Forces Recreation,
Training and Conference Centre (MH RKKK), Balatonakarattya,
Hungary, 04-08 March 2022.

(Training Audience present from 1 – 9 April)

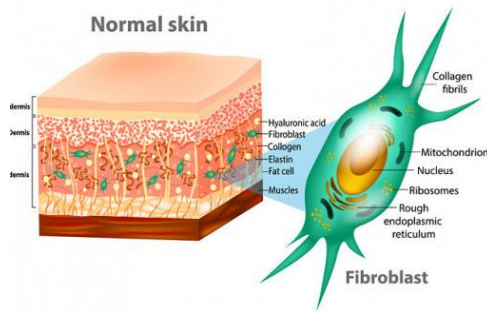
The main objective of TTX VW'22/CAMO'22 is to test and train
medical logistic resilience and interoperability of medical support system in a
simulated NATO major Operation at the operational and tactical level and thereby
experiment/test/develop NATO's/SHAPE's Patient Flow Management Concept

More information can be found:

<https://www.coemed.org/resources/vw>



The NATO MILMED COE Medical Innovation Section was established to support NATO Medical Innovation efforts, as outlined in the "ACT Innovation Strategy for Medical Support to Operations." This newsletter, and the corresponding "Innovation Portal," were created to increase awareness of emerging and innovative technologies that could advance NATO medical care delivery, or that pose a potential threat to NATO operational forces. The LL&IB Staff is reviewing relevant resources, to include scientific journals, news publications and web sites, to identify technologies which may be of interest to the NATO military medicine community. If you have read an article or have other information that you think would be of interest to the community, please send the information to us via the contribution link at the bottom of the newsletter.

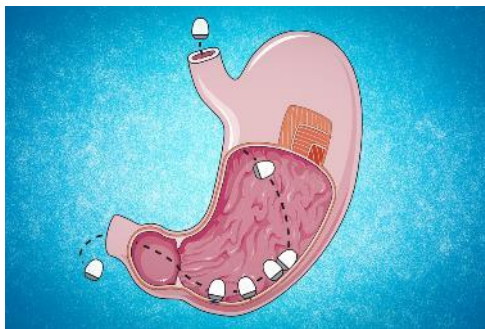


Promising New Treatment for COVID-19

Scientists from Cedars-Sinai Medical Center in California have identified a potential new therapy for COVID-19: a biologic substance created by reengineered human skin cells - fibroblasts. It is promising, innovative therapy against COVID-19 because it works in two ways: it protects infected cells, which remdesivir cannot do, and it also inhibits virus replication.

[Link full article.](#)

[Link](#)



Making RNA vaccines easier to swallow

Massachusetts Institute of Technology (MIT) researchers developed a way to deliver RNA in a capsule that can be swallowed, which could make RNA vaccines easier to tolerate. It could also make it easier to deliver other kinds of therapeutic RNA or DNA directly to the digestive tract, which could make it easier to treat gastrointestinal disorders such as ulcers.

[Link](#)



EMA gives Pfizer's antiviral drug Paxlovid the green light to be used in the EU

The European Medicines Agency (EMA) on 25JAN had approved Pfizer's anti-COVID-19 pill Paxlovid, becoming the first orally administered antiviral drug authorised for use in the European Union.

[Link](#)

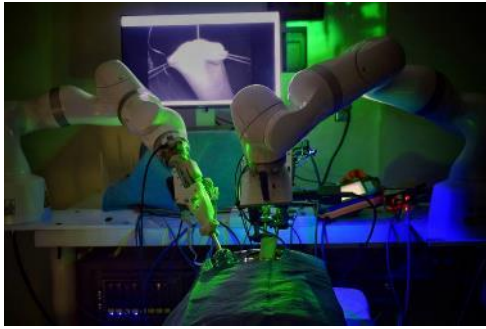


World's fastest COVID-19 detection

Finnish medical device company Deep Sensing Algorithms Ltd (DSA) has completed the development of the world's first ultra-rapid COVID-19 detection technology. The DSA BreathPass™ solution, which provides a result in less than a minute, now carries the EU wide medical CE certification and is available for deliveries.

[Link](#)

RESEARCH STUDIES



Robot Performs First Laparoscopic Surgery Without Human Help

A robot has performed laparoscopic surgery on the soft tissue of a pig without the guiding hand of a human—a significant step toward fully automated surgery on humans.

Designed by a team of Johns Hopkins University researchers, the Smart Tissue Autonomous Robot, or STAR.

[Link](#)



Evelina London and King's College London develop VR for heart surgery

The technology brings together scans to create a 3D digital image of the heart, which can be used by surgeons ahead of procedures. By doing so, it can shorten operation times, reduce the need for multiple surgeries and lead to better outcomes and experiences for patients.

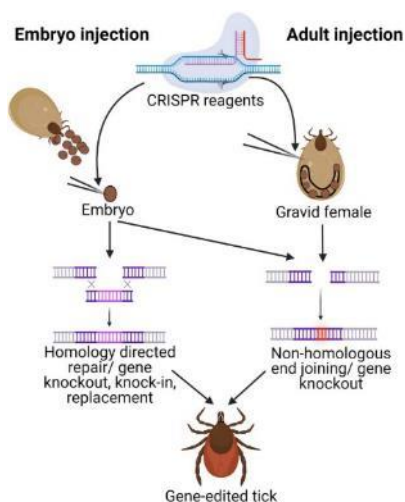
[Link](#)



University of Maryland School of Medicine Faculty Scientists and Clinicians Perform Historic First Successful Transplant of Porcine Heart into Adult Human

This organ transplant demonstrated for the first time that a genetically modified animal heart can function like a human heart without immediate rejection by the body.

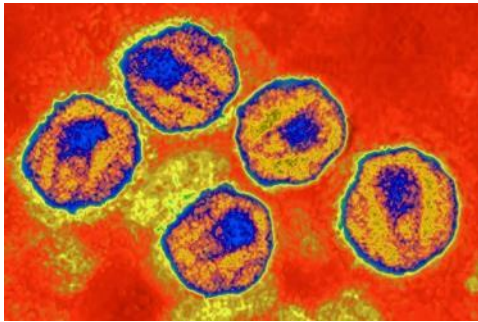
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Genetic Manipulation of Ticks: A Paradigm Shift in Tick and Tick-Borne Diseases Research.

Reducing tick-borne diseases, such as Lyme disease, may now be possible thanks to two new gene editing methods developed by researchers at Penn State; the University of Nevada, Reno; and the University of Maryland. The methods could allow scientists to alter parts of the tick genome that are involved in harbouring and transmitting pathogens.

[Link](#)



American Woman Appears to Be Entirely Cured of HIV After Unique Medical Treatment

A team of researchers in the US working as part of the International Maternal Paediatric Adolescent AIDS Clinical Trials Network (IMPAACT) recently reported the middle-aged patient to be virus-free more than four years after a revolutionary treatment for blood cancer.

[Link](#)



Using nanobodies to block a tick-borne bacterial infection

Tiny molecules called nanobodies, which can be designed to mimic antibody structures and functions, may be the key to blocking a tick-borne bacterial infection that remains out of reach of almost all antibiotics, new research suggests.

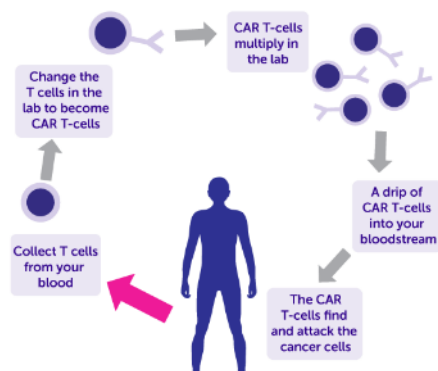
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Promising results of research on the anti-cancer drug CT-03

This could be a breakthrough in cancer treatment. Captor Therapeutics announced an important breakthrough in the development of CT-03, which has strong anti-cancer effects at all doses tested. Human clinical trials are scheduled to start in 2023.

[Link](#)



Cancer: Earlier targeted CAR T therapy could improve outcomes for high-risk large B cell lymphoma

T cells engineered with chimeric antigen receptors (CARs) are emerging as powerful cancer immunotherapies. Remarkable efficacies have been demonstrated in treating B-cell malignancies with CAR-T cells.

[Link](#)

Ventway Sparrow Robust Model



Designed specifically for military use, this durable and reliable device delivers consistent ventilation, and requires only periodic filter replacement. The ventilator is customized to meet MIL STD for the air force, navy and ground forces with features such as night vision compatibility and altitude resistance up to 25,000 feet.

[Link](#)

Here's how intelligence agencies can search foreign documents without learning the language



The new machine learning system developed by Raytheon BBN Technologies in partnership with the Intelligence Advanced Research Projects Activity allows English-speaking users to search foreign documents and speech without knowing the language.

[Link](#)

Is detecting signs of skin cancer in the bathroom mirror in our future?



The field of medicine is currently experiencing an incredible surge in innovation, driven by ground-breaking new biological discoveries, a digital revolution and a growing willingness to collaborate in research globally. What can patients expect for the future?

[Link](#)

Microscopes Powered by Google's AI Could Change Cancer Diagnostics



New augmented-reality microscopes, powered by AI, will change how doctors detect cancer, and finally begin to fulfil the promise of applying artificial intelligence to medical imagery.

[Link](#)

CONFERENCES, WEBINARS, etc.

ACT TIDE SPRINT



The ACT 39th TIDE SPRINT will be held from Monday, **04APR** to Thursday, **08APR, 2022** in Sopot, Poland.

The Think-Tank for Information Decision and Execution Superiority (TIDE) Sprint is NATO's premier think-tank event to solve tomorrow's interoperability challenges today.

The Medical Track is going to be held 100% virtually. It will bring together NATO members and partners, academia, and industry to support information, collaboration, and cooperation in the following areas:

- Informing the community about the ongoing work
- Shaping the future for the military medical support to operations
- Describing challenges identified by the NATO military medical Community of Interest

The agenda is available on Tidepedia (after account registration):

[Link](#)

Euro ISME Annual Conference



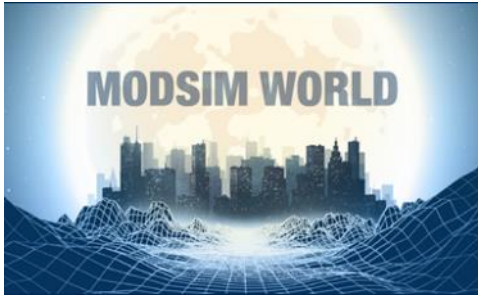
The International Society for Military Ethics in Europe Annual Conference 'New Technologies and the Enhanced Soldier: what Ethical Limits for European Nations'

It will take place between **18 and 20 May 2022**, 2021

Venue: Ludovika University, Budapest, Hungary.

At the EURO ISME annual conference 2022, private military companies, cyber warfare, space warfare and information warfare are phenomena which will be considered. Also, while 'military ethics' is traditionally considered to be a niche for the professional military, modern developments mentioned blur the distinction between military roles and non-military roles, while also blurring the distinction between the laws of war and the laws governing peace.

[Link](#)



MODSIM World will be held on **May 9 – 11, 2022**, Norfolk, VA, USA. It is a unique multi-disciplinary conference for the exchange of modelling and simulation knowledge, research, and technology. This event joins theory and practice across industry, government, and academia.

[Link](#)

The event will take place online, on **8 and 9 June 2022 in Birmingham, UK.**

Med-Tech innovation Expo 2022



Med-Tech Innovation Expo is the UK and Ireland's leading event for medical device supply chain intelligence. It brings together designers, engineers, innovators and manufacturers from across the medical and healthcare sectors to explore new ideas, understand emerging technologies, and source products and services from more than 150 companies representing the complete medical device and manufacturing supply chain.

[Link](#)

Wearable Biosensors for Casualty Care 2022 (WE CARE22)



It will be held on **June 21-23, 2022**, Koblenz Germany. Together with the NATO COMEDS Tele-Health Team (T-H T, HIST WG), the MMCC/EMC is going to organize and hosting a Wearable Biosensors for Casualty Care 2022 (WE CARE22) Workshop.

The Summit will take place **June 29-30, 2022**, National Harbor, MD, USA

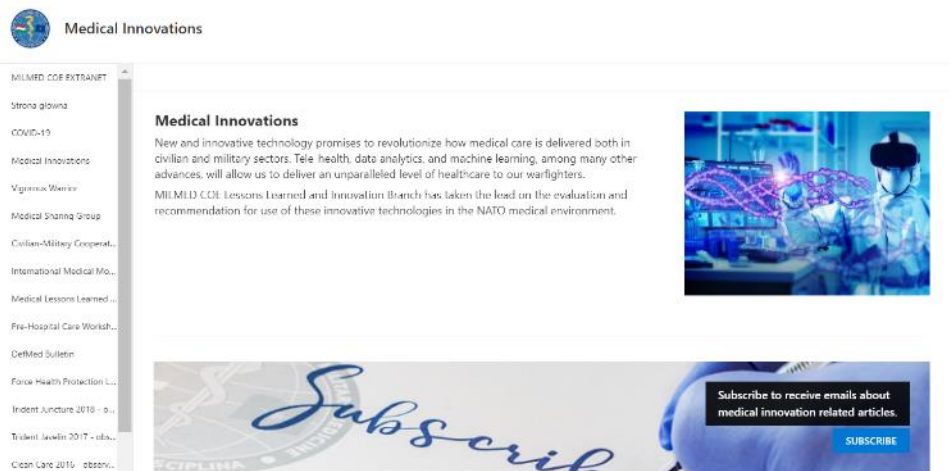
2022 Human Performance & Biosystems Summit



The 4th Annual Human Performance & Biosystems Summit will bring together DoD, Military Research Labs, Industry, & Academia to have a 'Town-Hall' style discussion on current/future initiatives toward advancing human capabilities with innovative research and development in the areas of training, cognition, nutrition, medical care, and machine-human interfaces.

[Link](#)

"NATO MILMED COE INNOVATION PORTAL "



Medical Innovations

New and innovative technology promises to revolutionize how medical care is delivered both in civilian and military sectors. Tele health, data analytics, and machine learning, among many other advances, will allow us to deliver an unparalleled level of healthcare to our warfighters.

MILMED COE Lessons Learned and Innovation Branch has taken the lead on the evaluation and recommendation for use of these innovative technologies in the NATO medical environment.

Subscribe to receive emails about medical innovation related articles.

SUBSCRIBE

The Innovation Portal contains many articles on technology developed as solutions to problems encountered during the COVID-19 pandemic, as well as articles that cover a broad range of technological fields.

We strive to collect on up-to-date and relevant information of value to the NATO medical community. If you come across an article or other information that you think should be included, please send it to us using the contribute link below.

E-mail address to submit the articles or innovative ideas: [Contribution](#)

Innovation Portal [Registration](#)

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