

Global Health Newsletter

November 2023

Staten Island University Hospital

Madi Lindauer, MD MPH

Americas

First Whole Eye Transplant

On November 9th surgeons at NYU Langone announced the first ever whole-eye transplant in a human. The recipient, Aaron James, a military veteran based in Arkansas, suffered severe burns to the left side of his face and arm, resulting from a 7,200-volt electrical shock while working as an electrical lineman in June 2021 in Oklahoma. Mr. James received his initial care in Texas where he had multiple reconstructive surgeries, leading to the removal of his left eye and amputation of his left arm.



<https://health.economictimes.indiatimes.com/news/industry/surgeons-in-new-york-announce-worlds-first-eye-transplant/105108140>

The transplant surgery, conducted on May 27th 2023, lasted 21 hours and involved a collaborative effort of over 140 surgeons, nurses and other healthcare professionals. Dr. Eduardo D. Rodriguez, the director of the Face Transplant program the Helen L. Kimmel Professor of Reconstructive Plastic Surgery, and chair of the Hansjörg Wyss Department of Plastic Surgery at NYU Langone, spearheaded the complex procedure.

The surgery included the transplantation of a partial face, including the nose, left upper and lower eyelids, left eyebrow, upper and lower lips, and underlying skull, cheek, nasal and chin bone segments, with all of the tissues below the right eye including the underlying muscles, blood vessels, and nerves and the entire left eye and socket including the orbital bones and all surrounding eye tissues including the optic nerve. The donor was a man in his 30s who was also able to donate his kidneys, liver and pancreas.

The primary objective of the surgery was cosmetic rather than functional. As of now, the transplanted eye is not functional. However, to encourage neuronal connections, surgeons harvested adult stem cells from the donor's bone marrow. These stem cells were strategically injected into the optic nerve along with the transplant, with the aim of replacing damaged cells and providing additional protective measures. Since the surgery, the transplanted left eye has exhibited promising signs of health, including a direct blood flow to the retina.

Further reading

<https://nyulangone.org/news/nyu-langone-health-performs-worlds-first-whole-eye-partial-face-transplant>

Middle East/Northern Africa

Syria Arrest Warrants Against Government Officials

French judicial authorities have issued international arrest warrants for Syrian President Bashar Assad, his brother and two army generals. The charges include complicity in war crimes and crimes against humanity related to the 2013 chemical attack on a rebel-held Damascus suburb. It is considered unlikely that the accused will face trial in France. However, this is groundbreaking because it is exceedingly rare for an international warrant to be issued for a sitting world leader.



<https://www.cbc.com/2018/04/12/blood-samples-reportedly-show-chemical-weapons-used-in-syria-attack.html>

The incident in question occurred in August 2013, when over 1,000 people were killed and thousands more injured in Douma and Eastern Ghouta. The attack involved rockets carrying the nerve agent sarin. In response to a criminal complaint by survivors, a case was initiated in 2021 by a special unit of the Paris Judicial Court. The investigation was focused on the two chemical weapons attacks.

Background of the Syrian War

The roots of the Syrian conflict began in March 2011 when pro-democracy protests erupted across the country, demanding an end to the authoritarian Assad regime that has been in power since 1971. The Syrian government responded with violence against the protestors, leading to the formation of opposition militias and eventually sparking a full-fledged civil war.

The complex conflict saw the Syrian government receiving support from Iran and Russia while anti-governmental rebel groups were backed by the United States and many U.S. allies. Additionally, an environment crisis also played a role in Syria's uprising, with the country experiencing its worst drought in modern history from 2006-2010.

The United Nations Human Rights office reports that between 2011 and 2021 over 300,000 people have been killed and more than 12 million displaced due to the conflict.

Further Reading

<https://apnews.com/article/france-syria-war-crimes-assad-arrest-warrant-c3c1c7e8529eb4dd0ca13484617da4d4>

<https://www.britannica.com/event/Syrian-Civil-War>

Asia/Pacific

The Restaurant of Mistaken Orders

Japan has the largest population of older individuals in the world, and is set to see one in five people with dementia by 2025. Shiro Oguni, a Japanese television director, created the Restaurant of Mistaken Orders to change perceptions about aging and progressive cognitive impairment. The inspiration for this restaurant struck Oguni during a visit to a nursing home when he received dumplings instead of the burger he ordered.



<http://www.mistakenorders.com/en/home.html>

The distinguishing feature of the Restaurant of Mistaken Orders lies in its employment of individuals with dementia as waiters. 37 percent of orders end up being mistaken but 99 percent of customers express satisfaction with their dining experience. Patrons frequent the restaurant not merely for the food but to extend their support to these unique waitstaff, understanding that the potential mix-up in their orders is part of the experience and the opportunity to forge a meaningful connection with their servers.

Further reading

<http://www.mistakenorders.com/en/home.html>

Sub-Saharan Africa

A Mysterious Disease outbreak in Uganda

Over the past two weeks, an unspecified health crisis has appeared in Uganda's Kyotera district, located in the central region. Reports indicate that at least 14 individuals have died due to the unidentified disease, with an additional 40 individuals falling ill. Initial symptoms observed in affected individuals include skin rashes and, in some cases, swollen limbs.

In response to the situation, the Ministry of Health has collected skin samples from one of the deceased patients. As of now, the findings have not been made public, leaving the community in a state of uncertainty.

The transmission of the disease appears to be zoonotic, with evidence suggesting a transfer from animals to humans. While the initial suspicion pointed towards anthrax, recent tests have ruled out this possibility. Animals in the area have also been reported to succumbing to the unidentified disease.

Further reading

<https://www.arise.tv/uganda-investigates-mysterious-disease-outbreak-following-12-deaths/>



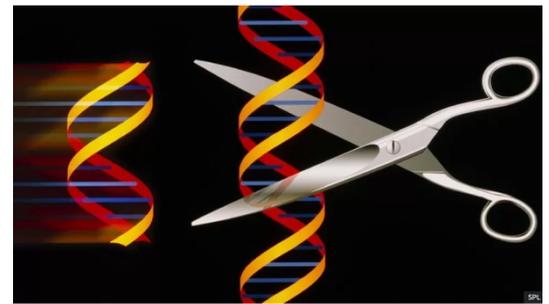
<https://www.arise.tv/uganda-investigates-mysterious-disease-outbreak-following-12-deaths/>

Europe

UK Approves Gene therapy for Sickle Cell Anemia and Beta Thalassemia

Casgevy (exagamglogene autotemcel), developed by Vertex Pharmaceuticals, has received approval from UK authorities for its application in treating sickle cell disease and beta thalassemia in patients aged 12 years and above. This ground breaking medicine marks the first licensed use of CRISPR technology for gene editing.

Casgevy is specifically designed to edit the abnormal gene present in a patient's bone marrow stem cells, enabling the body to produce normal hemoglobin. The process involves extracting stem cells from the bone marrow, employing CRISPR-Cas9 technology to edit them in the laboratory, and subsequently reintroducing the edited cells back into the patient. The CRISPR-Cas9 tool utilizes an RNA molecule to guide the Cas9 enzyme to the targeted region of the DNA, where it makes precise cuts. The gene targeted by Casgevy, known as BCL11A, typically inhibits the production of fetal hemoglobin. Through disrupting this gene, Casgevy facilitates the production of fetal hemoglobin, which lacks the genetic abnormality responsible for sickle cell disease or beta thalassemia.



<https://www.bbc.com/news/health-67435266>

The results have the potential to be lifelong. This process may take time and patients are estimated to spend at least one month in the hospital while the treated cells form and reproduce in the bone marrow. One concern is that the CRISPR-Cas9 can make unintended other genetic modifications with unknown side effects.

In a clinical trial focusing on Casgevy for sickle cell disease, 28 out of 29 patients experienced no sickle cell pain crises. For patients with beta thalassemia, 39 out of 42 participants did not require a blood transfusion for at least 12 months. Ongoing trials are being conducted in the UK, US, France, Germany, and Italy.

While the cost remains undisclosed, it is anticipated to be around \$2 million per patient, aligning with the pricing of other gene therapies.

Further Reading

<https://www.nature.com/articles/d41586-023-03590-6>

SIUH Residency Spotlight

Dr. Kelly-Ann Mungroo Travels to Guyana

Dr. Mungroo is currently on her international rotation in Georgetown, Guyana, spending the month of November. As the first SIUH emergency medicine resident to undertake an international rotation in Guyana, she is working in the emergency department and joining the local emergency medicine weekly conference. We look forward to hearing about her experiences when she returns!



What's New at Northwell's Center for Global Health? With Contributions from Daniel Leon MBA PMP

Ukraine

Led by VP of Global Health Dr. Eric Cioe Pena, a cross-functional Northwell Health team recently traveled to Ukraine to deliver 11 donated ambulances and medical vehicles to healthcare partners nationwide.

The team, including Telehealth Leader Dr. Johnathan Berkowitz, SVP of Veteran Services Juan Serrano, AVP of Bioengineering Todd Goldstein, and Brittany Armstrong, Northwell's Emergency Manager in Ukraine, also explored additional areas for impactful collaboration.



Mental Health Services in Guyana

This month, Zucker Hillside Hospital's director of mental health, Dr. Sohag Sanghani, traveled to Georgetown Public Hospital (GPHC) to finalize setup of their new ECT clinic—the first in Guyana.

Since early 2022, Northwell's Global Psychiatry team under Dr. John Young and Dr. Lauren Hanna has built local capacity by training GPHC mental health staff in ECT best practices. The Center for Global Health donated two advanced ECT machines to the new facility.



During his trip, Dr. Sanghani assisted GPHC in prepping the clinic for a March launch. He also worked with their psychiatry team to identify initial patients who could benefit from ECT treatment.

With Northwell guidance, the new ECT facility will begin this March.

Expanding Global Surgery Outreach

A Northwell Health team visited Georgetown Public Hospital in Guyana this month, led by LIJ Surgery Chair Dr. Gainosuke Sugiyama and SVP of Surgery Nathan Christopherson. Surgeon Dr. Sebastian Shterental assisted local staff in completing 50 hernia cases - their second mission this year after resolving a backlog of hernia surgeries in June.

The team also annually travels to Quito, Ecuador to perform surgeries through Northwell's partnership with the Health Ministry. In 2022 they tackled a backlog of 100 cases for Quito, and will return in January 2024 for another mission aimed at 100 surgeries.



These trips mark the launch of an expanded outreach commitment by Northwell's Global Surgery Team to undertake 6 dedicated trips per year to core partner sites worldwide. By dedicating specialist teams to return routinely, we strengthen local surgeon skills while increasing health access for underserved patient groups needing complex and urgent care.

Upcoming Lectures/Conferences



Misguided Charity in Global Health: Problems and Solutions

We invite you to join the upcoming sessions of the working paper series on health policy analysis in low and middle-income countries. Each webinar will begin with a 10 to 15-minute presentation by the speaker, followed by 30 minutes of open discussion in response to the presentation.

Olusoji (Soji) Adeyi
(Resilient Health Systems & Johns Hopkins Bloomberg School of Public Health)

Friday, December 15, 2023, 11:00 a.m. - 11:55 a.m. ET

<https://publichealth.jhu.edu/events/2023/misguided-charity-in-global-health-problems-and-solutions>

International Committee of the Red Cross: Training Centre

The Training Centre centralizes on-site training and e-learning modules on international humanitarian law and other areas of the ICRC's work.

<https://www.icrc.org/en/online-training-centre>