

# Coalition takes aim at IS oil facilities

By **DANICA KIRKA**  
and **JIM HEINTZ**  
Associated Press

**LONDON** — As British jets opened airstrikes against the Islamic State in Syria and Germany prepared to send troops and aircraft to the region Thursday, Russia's president called on the world to brandish "one powerful fist" in the fight against terrorism.

As international efforts to defeat the extremists grew, animosity between Russia and Turkey intensified.

Hours after Britain's Parliament authorized military action in Syria, its warplanes struck oil fields in eastern Syria that help finance IS. "This strikes a very real blow at the oil and the revenue on which the Daesh terrorists depend," Defense Secretary Michael Fallon said, using the Arabic acronym for IS.

The U.S.-led coalition and Russian warplanes have struck IS oil facilities, and Russia has drawn heated international attention by accusing Turkish authorities

of profiting from oil trade with IS, allegations Turkish President Recep Tayyip Erdogan has denied.

The Russian allegations came after last week's downing by Turkey of a Russian warplane near the Syria-Turkey border. Turkey said the plane had violated its airspace, but Russia rejects that contention.

Russian President Vladimir Putin, in his state-of-the-nation address, accused Turkey of "a treacherous war crime" and bitingly suggested "Allah must have

punished Turkey's ruling clique by depriving it of sense and reason."

Putin also accused Washington and its allies of turning Iraq, Syria and Libya into a "zone of chaos and anarchy threatening the entire world" by supporting change of regimes in those countries.

"We must leave all arguments and disagreements behind and make one powerful fist, a single anti-terror front, which would work on the basis of international law under the aegis of the

United Nations," Putin said.

Germany on Thursday prepared to send reconnaissance aircraft to the Middle East as coalition forces stepped up efforts to fight the militants. In all, up to 1,200 German soldiers would be deployed to support the international coalition fighting the Islamic State group. Two Tornados and a tanker could be sent to Turkey's Incirlik air base next week if the German Parliament approves the mission Friday as expected. German Defense Min-

ister Ursula von der Leyen said the mission would have three components: to protect French naval operations, to provide intelligence through reconnaissance aircraft and satellite observation, and to offer logistical support like in-air refueling for allied planes.

"The goal ... is to fight and contain IS, and destroy their safe havens and their ability to lead worldwide terror operations," she told reporters in Berlin before heading to Ankara for talks with her Turkish counterpart.

## Summit calls for caution on gene editing

By **LAURAN NEERGAARD**  
AP Medical Writer

**WASHINGTON** — A tool to edit human genes is nowhere near ready to use for pregnancy, but altering early embryos as part of careful laboratory research should be allowed as scientists and society grapple with the ethical questions about the revolutionary technology, organizers of an international summit concluded Thursday.

"It would be irresponsible" to edit human sperm, eggs or early embryos in a way that leads to pregnancy, said Nobel laureate David Baltimore of the California Institute of Technology, who served as chairman of the summit.

Tools to precisely edit genes inside living cells, especially a cheap and easy-to-use one called CRISPR-Cas9, are transforming biology — and potential treatments created by them promise to do such things as cure sickle-cell anemia or fight HIV and cancer.

But depending on how it's used, it also could alter human heredity — maybe create "designer babies" — raising ethical questions that triggered three days of debate by scientists, policymakers and ethicists from 20 countries. This so-called germline editing — manipulating sperm, eggs or early embryos — wouldn't affect just one sick person but his or her descendants.

The question gained urgency after Chinese researchers made the first attempt to alter genes in human embryos, an experiment that showed scientists don't yet know how to do that safely and effectively.

The summit's organizers endorsed treatment-related gene editing research, and said lab research on germline issues "is clearly needed and should proceed" with appropriate oversight as international debate continues.

The panel offered what geneticist Eric Lander of the



**Nobel laureate David Baltimore of California Institute of Technology speaks to reporters Tuesday at the National Academy of Sciences international summit on the safety and ethics of human gene editing in Washington. Hundreds of scientists and ethicists from around the world met at the summit to debate the boundaries of a revolutionary technology to edit the human genetic code.** | AP Photo

Broad Institute of MIT and Harvard called "a framework for deciding if and when" the reproductive use of gene editing ever moves forward.

"As scientific knowledge advances and societal views evolve, the clinical use of germline editing should be revisited on a regular basis," the committee concluded. It urged the sponsors of this week's summit — the scientific academies of the U.S., Britain and China — to create an international forum to help "establish norms concerning acceptable uses of human germline editing."

First-step testing of an initial gene editing therapy has begun in people.

Sangamo Biosciences is developing an HIV treatment — pulling immune cells from patients' blood, editing a gene that boosts resistance to the virus, and returning those cells. So far, 80 HIV patients have received the therapy in first-stage testing, with good results so far, said Sangamo senior scientist Fyodor Urnov.

Next year, Sangamo plans a clinical trial that takes a next step and injects a gene editing tool directly into the body, an attempt to target

hemophilia B, a blood disorder.

"We're at the beginning of this story now," cautioned Dr. Adrian Thrasher of University College London, where researchers recently treated a 1-year-old leukemia patient with edited immune cells. "What we'll see over the next five years or so is increasing clinical trials."

The Chinese attempt used embryos too abnormal to ever have developed into a fetus. The researchers aimed to correct a gene defect that triggers a deadly disease, but only a few embryos were fully corrected and others had alterations in the wrong spots.

But it may be feasible to gene edit sperm-producing cells that in some men don't do their job, something a University of Pittsburgh researcher is exploring.

Every day, scientists use gene editing to create animals in the laboratory — they've bred mice, pigs, even monkeys. That means it's technically feasible for humans, too, if scientists learn the necessary steps.

One worry is about fraud — someone promising would-be parents that they could edit embryos before science actually gets there.

After all, clinics that promise stem cell "therapy" that's really just snake oil already lure desperately sick people.

"The conversation is important now to try and deter people from doing it prematurely," said developmental geneticist Robin Lovell-Badge of Britain's Francis Crick Institute.

Critics say changing human inheritance could have consequences not foreseeable for several generations, and would pass genetic alterations to future generations without their consent. A mistake could have irreversible consequences.

"It's a radical rupture with past human practices," said Marcy Darnovsky of the Center for Genetics and Society.

Then there's the question of what is permissible to alter: Just deleting a gene that causes a devastating disease in a family? Or enhancing future children to be smarter, prettier or more athletic? The latter triggers fear of eugenics.

"I'm skeptical about the 'Brave New World' scenario," said Dr. George Daley of Boston Children's Hospital, noting those enhancements involve more genes than anyone can guess.

## Defense chief: Open all combat jobs to women

By **LOLITA C. BALDOR**  
Associated Press

**WASHINGTON** — After three years of study, Defense Secretary Ash Carter ordered the military Thursday to open all military jobs to women, removing the last barriers that kept women from serving in combat.

His decision rebuffed requests by the Marine Corps to exclude women from certain infantry and combat jobs and signaled a formal recognition that thousands of women served, and many were wounded or killed, in the last 14 years of war in Iraq and Afghanistan.

"We are a joint force, and I have decided to make a decision which applies to the entire force," Carter told a news conference.

"Implementation won't happen overnight. And while at the end of the day this will make us a better and stronger force, there still will be problems to fix and challenges to overcome. We shouldn't diminish that."

Carter said the military can no longer afford to exclude half the population from high-risk military posts. He said that any man or woman who meets the standards should be able to serve, and he gave the armed services 30 days to submit plans to make the historic change.

Carter's order opens the final 10 percent of military positions to women — a total of about 220,000 jobs. And it allows them to serve in the most demanding and difficult jobs, including as special operations forces, such as the Army Delta units and Navy SEALs.

U.S. Rep. Tammy Duckworth, D-Ill., one of the

first Army women to fly combat missions in the 2003-11 Iraq war, welcomed the decision.

"I didn't lose my legs in a bar fight — of course women can serve in combat," said Duckworth, whose helicopter was hit by a rocket-propelled grenade. "This decision is long overdue."

Sen. John McCain, R-Arizona and head of the Senate Armed Services Committee, said Congress will review the data and the decision.

Over the past few years, women have steadily moved into many jobs previously open only to men, including on Navy submarines, in Army artillery units, and as Night Stalkers, the elite special operations helicopter crews, best known for flying the Navy SEALs into Osama bin Laden's compound in 2011.

Three women became the first to take and pass the Army's difficult Ranger course.

The military services forwarded their recommendations to Carter earlier this fall. The Army, Navy, Air Force and Special Operations Command all said they would not seek any exceptions and would recommend removing the ban on women in dangerous combat jobs.

Only the Marine Corps sought to keep some jobs closed.

Joint Chiefs of Staff Chairman Gen. Joseph Dunford was the Marine Corps commandant at the time and argued that the Marines should be allowed to keep women out of certain front-line combat jobs. He cited studies showing that mixed-gender units aren't as capable as all-male units.

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