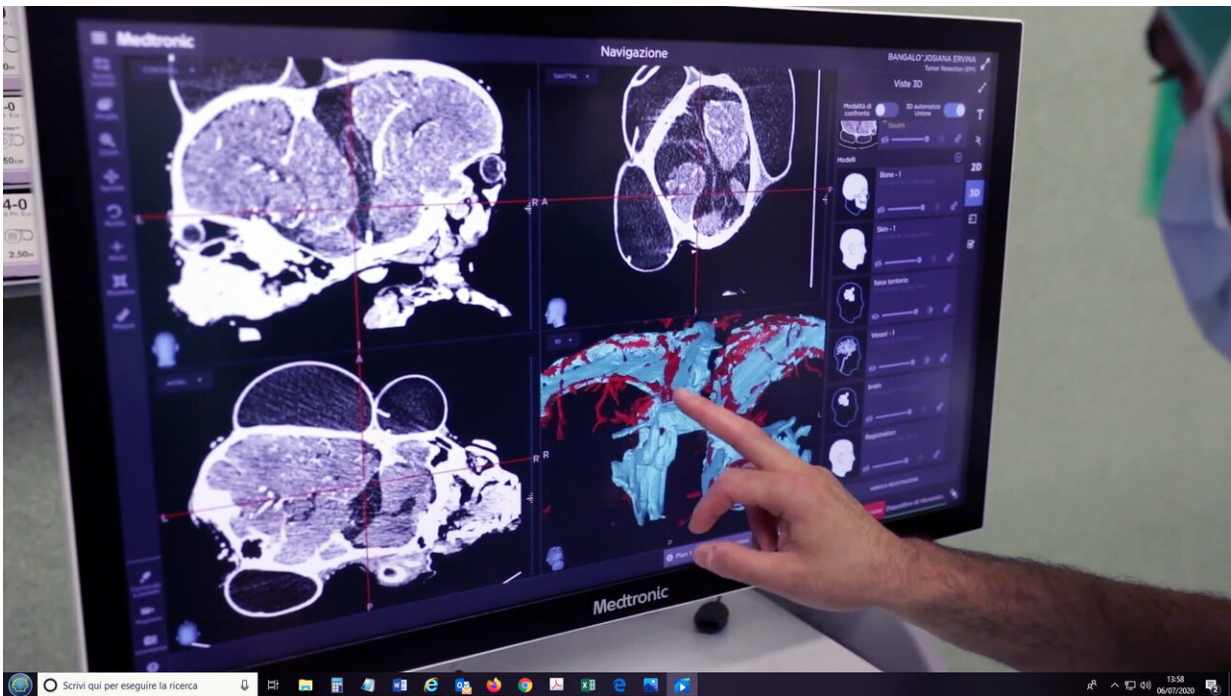


Twins joined at head separated at Vatican pediatric hospital

July 7 2020, by Nicole Winfield



A doctor looks at a 3d monitor showing the skulls of twins Ervina and Prefina during surgery at the Vatican pediatric hospital, in Rome. Doctors at the Vatican's pediatric hospital said Tuesday, July 7, 2020 they have successfully separated conjoined twins whose skulls were fused back-to-back, an exceedingly rare surgery for an equally rare congenital defect. Twins Ervina and Prefina Bangalo were born June 29, 2018 in Mbaiki, Central African Republic sharing the same skull and critical blood vessels around their brains. (Bambino Gesù Hospital via AP)

Doctors at the Vatican's pediatric hospital said Tuesday they have successfully separated conjoined twins whose skulls were fused back-to-back, an exceedingly rare surgery for an equally rare congenital defect.

The twins, Ervina and Prefina Bangalo, were born June 29, 2018 in Mbaiki, Central African Republic with their heads attached and sharing critical blood vessels around their brains. Such cases of conjoined twins occur once in every 2 million births or so.

The Bambino Gesù Pediatric Hospital, which is Vatican-owned but operates within the Italian public health system, brought the twins and their mother to Italy soon after their birth. The [hospital](#) said the toddlers are recovering well a month after their third and definitive separation surgery on June 5.

Video released by the hospital showed the girls waving along to music from their beds, clapping and holding markers, as well as celebrating their second birthday in their mother's arms as [hospital staff](#) sang "Happy Birthday" to them in Italian.

The key goal of the surgery was "to obtain a separation with the girls in perfect condition. So the objective we gave ourselves was very ambitious, and we did everything to reach it," Dr. Carlo Marras, chief of pediatric neurosurgery at Bambino Gesù, said.



Ermine holds her twins Ervina and Prefina, at the Vatican pediatric hospital, in Rome, June 30, 2020. Doctors at the Vatican's pediatric hospital said Tuesday, July 7, 2020 they have successfully separated conjoined twins whose skulls were fused back-to-back, an exceedingly rare surgery for an equally rare congenital defect. Twins Ervina and Prefina Bangalo were born June 29, 2018 in Mbaiki, Central African Republic sharing the same skull and critical blood vessels around their brains. (Bambino Gesù Hospital via AP)

Marras led the team that worked for nearly two years planning and executing the separation.

At a press conference to announce the outcome of the sisters' surgery, Marras said the prognosis was "these girls can have a normal life" after a phase of rehabilitation.

There have been successful separation surgeries in the past of twins joined at the head, but most have been for twins whose heads were fused vertically, at the top. Ervina and Previna's skulls were joined back-to-back in what is known as "total posterior craniopagus."

That made the surgery particularly challenging since the back of the head is a far more critical place for blood supply to the brain and drainage of blood away from it, said Dr. Jesse Taylor, head of plastic surgery at the Children's Hospital of Philadelphia who has participated in some separation surgeries.



Ermine holds her twins Ervina and Prefina as she poses with Carlo Efisio Marras, top right, head of the Bambino Gesù hospital's neurosurgery department and the staff, in Rome, Tuesday, June 30, 2020. Doctors at the Vatican's pediatric hospital said Tuesday, July 7, 2020 they have successfully separated

conjoined twins whose skulls were fused back-to-back, an exceedingly rare surgery for an equally rare congenital defect. Twins Ervina and Prefina Bangalo were born June 29, 2018 in Mbaiki, Central African Republic sharing the same skull and critical blood vessels around their brains. (Bambino Gesu Hospital via AP)

"It's one of those configurations that I think a lot of centers, when they see it, say, 'You know, we're not sure that this can be done safely,'" Taylor said. "The venous drainage tends to be the main limiting step for separability" in twins connected at the back of the head.

He said in typical separation surgeries, doctors can "borrow" some blood vessels to give to each twin. "But when it comes to the back of the head, you don't have a lot of wiggle room for borrowing veins," Taylor explained.

Marras said that indeed, the most complicated aspect of the Bangalo twins' separation was to give each child autonomous venous drainage systems—procedures that began with two surgeries in May and June 2019. The final, 18-hour surgery last month to physically [separate](#) them involved a team of 30 doctors and nurses, who made use of 3-D imaging and neurosimulators.



Ermine, right, looks at her twins Ervina and Prefina lying on their beds at the Bambino Gesu' Vatican pediatric hospital, in Rome, Tuesday, June 16, 2020. Doctors at the Vatican's pediatric hospital said Tuesday, July 7, 2020 they have successfully separated conjoined twins whose skulls were fused back-to-back, an exceedingly rare surgery for an equally rare congenital defect. Twins Ervina and Prefina Bangalo were born June 29, 2018 in Mbaiki, Central African Republic sharing the same skull and critical blood vessels around their brains. (Bambino Gesu Hospital via AP)

Before the separation surgery, members of the Vatican hospital's staff gave the girls mirrors so they could see one another. They knew what each other sounded like, but the mirrors helped them associate facial expressions with their personalities and sounds, Marras said.

"It was an experience that wasn't just professional but above all human: to think that you can arrive at something that we had only imagined, with all the possibilities of failure. It was a magical moment. Marvelous," he said.

Marras said there was only one previously known case of a separation of twins conjoined at the back of the head, performed in the United States during the 1980s. He said the outcome in that case was poor.

He was referring to the 1987 surgery at Johns Hopkins University by a team led by Dr. Ben Carson, who is now U.S. President Donald Trump's housing secretary. Both twins suffered serious neurological problems; an Associated Press story from 1989, two years after the [surgery](#), said one of the boys was in a vegetative state and the other had severe developmental delays.



Mariella Enoc, president of the Bambino Gesù' (Baby Jesus) pediatric hospital, left, and Carlo Efisio Marras, head of the hospital's neurosurgery department, center, pose with Ermine, mother of conjoined twins Ervina and Prefina, before a press conference at the Vatican pediatric hospital, in Rome, Tuesday, July 7, 2020. Doctors at the Vatican's pediatric hospital said Tuesday they have successfully separated twins who were conjoined at the back of their skull, an exceedingly rare surgery for an equally rare congenital defect. Twins Ervina and Prefina Bangalo were born June 29, 2018 in the Central African Republic sharing the same skull and critical blood vessels around their brains. (AP Photo/Riccardo De Luca)

In the case of the sisters from Central African Republic, Marras said the girls so far have suffered no neurological harm.

The twins' mother, Ermine Nzotto, wiped tears from her eyes as she watched a video prepared by the hospital of the twins' before and after their separation. Nzotto said she never went to school but hopes her daughters would study to become doctors.

"It's a joy, that I can see my girls run and play like other children. May they tomorrow study and learn to become doctors to save the other children of this world," she said through an interpreter.

The mother thanked Marras, the hospital president and Pope Francis, who visited Central African Republic's capital of Bangui in 2015 and has since strongly supported Bambino Gesu's collaboration with the pediatric hospital there.

Nzotto said she also hopes that Francis will now baptize her girls.



Ermine holds her conjoined twins Ervina and Prefina in this photo taken on April 2019. Doctors at the Vatican's pediatric hospital said Tuesday, July 7, 2020 they have successfully separated conjoined twins whose skulls were fused back-to-back, an exceedingly rare surgery for an equally rare congenital defect. Twins Ervina and Prefina Bangalo were born June 29, 2018 in Mbaiki, Central African Republic sharing the same skull and critical blood vessels around their brains. (Bambino Gesu Hospital via AP)



Carlo Efisio Marras, head of the Bambino Gesù' (Baby Jesus) pediatric hospital neurosurgery department, meets the media during a press conference in Rome, Tuesday, July 7, 2020. Doctors at the Vatican's pediatric hospital said Tuesday they have successfully separated twins who were conjoined at the back of their

skull, an exceedingly rare surgery for an equally rare congenital defect. Twins Ervina and Prefina Bangalo were born June 29, 2018 in the Central African Republic sharing the same skull and critical blood vessels around their brains. (AP Photo/Riccardo De Luca)



Carlo Efisio Marras, right, head of the Bambino Gesù' (Baby Jesus) pediatric hospital neurosurgery department, poses with Ermine, mother of conjoined twins Ervina and Prefina, before a press conference at the Vatican pediatric hospital, in Rome, Tuesday, July 7, 2020. Doctors at the Vatican's pediatric hospital said Tuesday they have successfully separated twins who were conjoined at the back of their skull, an exceedingly rare surgery for an equally rare congenital defect. Twins Ervina and Prefina Bangalo were born June 29, 2018 in the Central African Republic sharing the same skull and critical blood vessels around their brains. (AP Photo/Riccardo De Luca)



Ermine, mother of conjoined twins Ervina and Prefina, smiles before a press conference at the Vatican pediatric hospital, in Rome, Tuesday, July 7, 2020. Doctors at the Vatican's pediatric hospital said Tuesday they have successfully separated twins who were conjoined at the back of their skull, an exceedingly rare surgery for an equally rare congenital defect. Twins Ervina and Prefina Bangalo were born June 29, 2018 in the Central African Republic sharing the same skull and critical blood vessels around their brains. (AP Photo/Riccardo De Luca)



Carlo Efisio Marras, head of the Bambino Gesù' (Baby Jesus) hospital's neurosurgery department, left, poses with Ermine, mother of conjoined twins Ervina and Prefina, before a press conference at the Vatican pediatric hospital, in Rome, Tuesday, July 7, 2020. Doctors at the Vatican's pediatric hospital said Tuesday they have successfully separated twins who were conjoined at the back of their skull, an exceedingly rare surgery for an equally rare congenital defect. Twins Ervina and Prefina Bangalo were born June 29, 2018 in the Central African Republic sharing the same skull and critical blood vessels around their brains. (AP Photo/Riccardo De Luca)

Hospital President Mariella Enoc had met the [twins](#) soon after they were born during a visit to the Central African Republic and was the driving force behind bringing them to Rome and seeing if they could be separated.

She said deciding to do so created ethical and economic questions, since the cost of 1 million euros (\$1.1 million) paid for primarily by the hospital foundation could have been spent on less-risky procedures that might have benefited more children.

But Enoc said: "When you find a life that can be saved, you have to save it."

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