

June 24, 2002

For Immediate Use

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UCLA Surgeons Complete Skin Expansion Procedure on Conjoined Twins; Minor Scalp Tear May Delay Separation

Doctors at UCLA's Mattel Children's Hospital completed a skin expansion procedure at 3:30 p.m. today on Maria Teresa and Maria de Jesus Quiej Alvarez, 11-month-old twins joined at the skull. UCLA plastic surgeons implanted balloons under the babies' scalps to stretch the skin enough to cover their heads after their separation surgery next month.

"This was almost a dress rehearsal for the twins' longer surgeries next month," explained UCLA plastic and reconstructive surgeon Dr. Henry Kawamoto Jr., who conducted the 75-minute skin expansion procedure. "The time was well spent discussing what we'll need to do next time and the type of supplies we'll require in the operating room."

Both twins responded well to the anesthesia and surgery. Surgeons encountered a minor problem, however, when inserting one of the two expander balloons.

"The skin in one spot was very thin and the scalp tore slightly in the groove between their heads," said Kawamoto. "We stitched the wound together, but we will not be able to expand the scalp there until the skin heals."

UCLA will postpone the separation surgery until the torn tissue heals and is able to be stretched. Doctors estimate this will take another two weeks. Because the twins will remain in the hospital, however, Kawamoto will be able to monitor the babies on a daily basis.

Prepping the babies for surgery lasted two hours. After anesthesia, the doctors faced the dilemma of how to best position the twins to gain access to their heads for surgery. After much discussion, the doctors rested one twin on her back, facing up, and the other twin on her abdomen, her face cradled in an open cushion shaped like a donut.

After shaving the infants' hair, the doctors used an ultrasound wand on the girls' heads to detect major blood vessels. These were inked in red on their scalp, so surgeons would know where to avoid performing the incision.

"Overall, everything went exactly as it should have," said Dr. Barbara Van De Wiele, chief anesthesiologist on the case. "We're very pleased."

UCLA plastic surgeons made a tiny incision on one side of the babies' heads, between their ears. In the small groove separating the twins' heads, Kawamoto threaded two eight-inch long silicone balloons around the girls' heads, creating a bulging halo effect under their scalps. The

end of the balloon runs into a slender hose with a self-sealing valve. Twice a day, doctors will inject saline solution into the valve.

Tissue expansion enables the body to "grow" extra skin for use in reconstructing almost any part of the body. Surgeons prefer to use tissue expansion to reconstruct parts of the scalp, where hair growth makes it difficult to replace lost tissue with skin from elsewhere on the body. Even after stretching, skin from the scalp retains its ability to generate natural hair growth. In addition, the skin is less likely to die because it remains connected to the scalp's own blood and nerve supply.

The Quiej Alvarez twins were born in a small hospital in Guatemala on July 25, 2001. The hospital called the Guatemalan Pediatric Foundation, which then contacted Healing the Children, a nonprofit group that finds medical care for children in undeveloped countries. The organization approached Lazareff, one of HTC volunteer physicians, for aid in accepting the twins' cases. Lazareff and Kawamoto are leading the team of UCLA physicians, nurses and medical staff who are working with the twins.

Craniopagus twins — those who are fused at the tops of their heads — are one of the rarest types of conjoined twins. An estimated two percent of conjoined twins are craniopagus.

While many of the UCLA physicians -- including Lazareff -- are donating their services -- Mattel Children's Hospital expects the girls' care to cost upwards of \$1.5 million. To recover some of the medical expenses, the hospital has established a fund called Twins Care at UCLA. Checks payable to UCLA Foundation may be mailed to UCLA Medical Sciences Development, 10945 Le Conte Ave., Ste. 3132, Los Angeles, CA 90095.

Healing the Children also is accepting donations on behalf of the twins at Post Office Box 221478, Newhall, CA 91322. See www.healingchildren.org for more details.

For pictures and more information about the twins and their UCLA medical team, please see www.uclahealth.org.

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Surgeons at UCLA's Mattel Children's Hospital Perform Skin Expansion Procedure on Conjoined Twins

Doctors at UCLA's Mattel Children's Hospital will perform a skin expansion procedure June 24 on Maria Teresa and Maria de Jesus Quiej Alvarez, 11-month-old twins joined at the skull. UCLA

plastic surgeons will implant balloons under the babies' scalps to gently stretch the skin enough to protect their brains after their separation surgery in mid-July.

"Stretching the scalp will enable us to create two skin flaps large enough to cover both babies' heads after their final separation," explained UCLA plastic and reconstructive surgeon Dr. Henry Kawamoto Jr.

According to Kawamoto, surgical director of the UCLA Craniofacial Clinic, the issue transcends the aesthetic. In previous cases, twins joined at the heads have died when infection entered the incision after separation. Because the babies' brains adjoin each other, enough scalp currently exists to cover only one of their heads.

The procedure itself is fairly routine. After shaving the twins' hair, UCLA plastic surgeons will make a tiny incision on one side of the babies' heads, between their ears. In the small groove separating the twins' heads, Kawamoto will thread two eight-inch long silicone balloons around the girls' heads, creating a bulging, halo effect under their scalps.

The end of the balloon runs into a slender hose with a self-sealing valve. Twice a day, doctors will inject saline solution into the valve. The entire process should last two to three weeks.

"The saline swells the balloon to expand the tissue above it," Kawamoto said. "The expander operates in a similar fashion to how the fetus stretches its mother's abdominal skin during pregnancy."

Tissue expansion enables the body to "grow" extra skin for use in reconstructing almost any part of the body. The procedure is most commonly used in breast reconstruction when not enough skin exists to accommodate a permanent implant after mastectomy.

Surgeons prefer to use tissue expansion to reconstruct parts of the scalp, where hair growth makes it difficult to replace lost tissue with skin from elsewhere on the body. Even after stretching, skin from the scalp retains its ability to generate natural hair growth. In addition, the skin is less likely to die because it remains connected to the scalp's own blood and nerve supply.

As in any surgery, skin expansion carries some risks related to infection, skin deterioration and breakage or leaking of the balloon. However, Kawamoto said, these risks are outweighed by the more serious consequences of approaching the twins' separation surgery without enough tissue to cover the infants' brains.

The Quiej Alvarez twins were born in a small hospital in Guatemala on July 25, 2001. The hospital called the Guatemalan Pediatric Foundation, which then contacted Healing the Children, a nonprofit group that finds medical care for children in undeveloped countries. The organization approached Lazareff, one of HTC volunteer physicians, for aid in accepting the twins' cases. Lazareff and Kawamoto are leading the team of UCLA physicians, nurses and medical staff who are working with the twins.

Craniopagus twins — those who are fused at the tops of their heads — are one of the rarest types of conjoined twins. An estimated two percent of conjoined twins are craniopagus.

In addition to Lazareff and Kawamoto - who are donating their services - a team of more than 50 UCLA physicians, nurses, residents and staff will ultimately be involved in the twins' cases. Mattel Children's Hospital expects the babies' care to cost upwards of \$1.5 million. To recover

some of these expenses, the hospital has established a fund called Twins Care at UCLA. Checks payable to UCLA Foundation may be mailed to UCLA Medical Sciences Development, 10945 Le Conte Ave., Ste. 3132, Los Angeles, CA 90095.

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Test Results Drive Surgeons' Strategy to Separate Conjoined Twins at UCLA's Mattel Children's Hospital

Physicians at UCLA's Mattel Children's Hospital are studying the results from three days of medical testing of Maria Teresa and Maria de Jesus Quiej Alvarez, 10-month-old twins who are joined at the skull. The data will inform how UCLA surgeons plan to separate and reconstruct the tops of the girls' heads.

The diagnostic findings offer some hopeful news, but also reveal a major challenge facing UCLA surgeons.

First, a magnetic resonance imaging (MRI) of the infants shows that they possess distinct brains under their shared skull -- something UCLA doctors previously had not known.

"The twins' brains appear separated by a membrane and look normal in size and structure," explained Dr. Pablo Villablanca, MRI director and assistant professor of radiological sciences.

"This is excellent news, because surgeons probably won't need to cut any part of the babies' brain tissue in order to separate them," he added. "This should help prevent the surgery from affecting the girls' brain function."

However, an angiogram and computed tomography angiogram (CTA) illustrated significant obstacles UCLA surgeons must overcome before separating the twins.

"The angiogram showed us that each baby possesses normal arteries feeding the brain -- but a portion of the veins that drain the brain return to the other twin," said Dr. Gary Duckwiler, professor of radiological sciences. "If we can't preserve and reroute those veins to each child in a normal fashion, both twins may be at risk for stroke."

"Our biggest challenge will be to keep the veins functioning as we reconstruct a blood drainage pathway," agreed Dr. Jorge Lazareff, associate professor of neurosurgery. "This is tricky vascular surgery and remains a critical aspect of separation."

According to Villablanca, the CTA confirmed Duckwiler's interpretation of the angiogram. "The CTA sheds light on small veins the surgeons may recruit in order to restore normal venous function to the twins," he said.

After separating the twins, UCLA plastic surgeons next face the difficult challenge of recovering the girls' brains with scalp. Because the babies' brains adjoin each other, only enough tissue currently exists to cover one of their heads.

According to Dr. Henry Kawamoto Jr., the issue transcends the aesthetic. In previous cases, twins joined at the heads have died when infection entered the incision after separation.

"We are examining how we can create two skin flaps large enough to cover both babies' heads," said Kawamoto, surgical director of the UCLA Craniofacial Clinic. "If we can't, we will need to explore other ways of safely stretching the scalp tissue, which may postpone the surgery."

Born in Guatemala on July 25, 2001, the Quiej Alvarez twins arrived in Los Angeles with their mother, Alba Leticia Alvarez, on June 7. Healing The Children, a nonprofit group that helps find medical care for children in underdeveloped countries, approached Lazareff, one of their volunteer physicians, for help in accepting the twins' cases. Lazareff and Kawamoto are leading the team of physicians, nurses and medical staff who will treat the twins.

Craniopagus twins — those who are fused at the tops of their heads — are one of the rarest types of conjoined twins. An estimated two percent of conjoined twins are craniopagus.

A UCLA team of more than 50 physicians, nurses, residents and staff are donating their services to the twins' care. Still, additional medical expenses are expected to cost the hospital upwards of \$1.5 million. Healing The Children is accepting donations on behalf of the twins at Box 221478, Newhall, CA 91322. See www.healingchildren.org for more details.

-UCLA-

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Doctors at UCLA's Mattel Children's Hospital Evaluate Conjoined Twins for Separation Surgery

A team of physicians at UCLA's Mattel Children's Hospital began evaluating 10-month-old conjoined twins this week for separation surgery. The twin girls - who are joined at the head -- arrived in Los Angeles with their mother on June 7 from Guatemala.

Doctors reported the twins as healthy, active and in good condition. UCLA specialists will evaluate the girls' neurological development and conduct diagnostic tests to determine where their brains and blood vessels are joined.

Named Maria Teresa and Maria de Jesus Quiej Alvarez, the twins were born July 25, 2001 in a rural area of Guatemala. A nonprofit group called Healing The Children, which helps find medical care for children in underdeveloped countries, approached one of their volunteer physicians, Dr. Jorge Lazareff, for help in accepting the twins' cases. Lazareff, a pediatric neurosurgeon at UCLA's Mattel Children's Hospital, and UCLA plastic and reconstructive surgeon Dr. Henry Kawamoto are leading the team of physicians and medical staff who will evaluate and treat the twins.

Craniopagus twins — those who are fused at the tops of their heads — are one of the rarest types of conjoined twins. An estimated two percent of conjoined twins are craniopagus.

All of the UCLA doctors on the twins' cases are donating their time and services. However, additional medical expenses are expected to cost the hospital upwards of \$1.5 million. Healing The Children is accepting donations on behalf of the twins at Box 221478, Newhall, CA 91322. See www.healingchildren.org for more details.

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Conjoined Twins Arriving At Mattel Children's Hospital at UCLA; Doctors to Evaluate Twins for Separation Surgery

Ten-month old Guatemalan twins, joined at the tops of their heads, will arrive today at Mattel Children's Hospital at UCLA, where a team of physicians will evaluate them for separation surgery. Named Maria Teresa and Maria de Jesus Quiej Alvarez, the girls were born July 25, 2001 in a rural area of Guatemala. Currently, the twins are active, alert and appear in good health. Their mother, Alba Leticia Alvarez, will be traveling with them. Their father, Wenceslao Quiej Lopez, will remain in Guatemala. The twins are the couple's first children.

A nonprofit group called Healing The Children organized efforts to bring the girls to UCLA. Several months ago, the organization approached Dr. Jorge Lazareff, a pediatric neurosurgeon at UCLA's Mattel Children's Hospital and volunteer neurosurgeon with Healing The Children, for help in accepting the twins' cases. Dr. Lazareff and UCLA plastic and reconstructive surgeon Dr. Henry Kawamoto are leading the team of physicians and medical staff who will evaluate and treat the twins.

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