

CALIFORNIA

Migrants carer: Election won't change border

By Gregory Bull
THE ASSOCIATED PRESS

JACUMBA HOT SPRINGS — As dawn breaks through low clouds over the high desert, Sam Schultz drives along the knotted dirt roads near the U.S.-Mexico border, looking for migrants to help.

For more than a year now, Schultz, 69, has been bringing food, water, warm blankets and more to the thousands of migrants he's found huddled in make-shift camps, waiting to be processed for asylum.

He got involved when the camps showed up just a few miles from his home,

Jacumba Hot Springs, a sparsely populated area where the rugged terrain makes it hard for people to find sustenance or shelter. As a Christian and a Quaker, he believes he has a responsibility to care for the people around him, and he felt compelled to keep people from suffering.

"I'm just not going to stand for that," Schultz said. "If it's a place where I can do something about it. It's really that simple."

Starting in late October of 2023, Schultz figures he fed more than 400 people a day for 90 days straight. Since he started, Schultz said the effort has ballooned, with

many volunteers and donations.

While he sees that the border is at the epicenter of one of hottest topics dividing Republicans and Democrats in this year's presidential elections — immigration — Schultz doesn't plan to vote for either candidate. He doesn't think either will make a difference.

Schultz believes the heart of the issue is that the wealthy benefit from mass migration, though it is rarely mentioned.

So, instead of entering into the debate, Schultz, a lifelong relief-worker who helped in humanitarian relief efforts in Indonesia in the early 2000s,

prefers to focus entirely on helping those he encounters in the desert.

The number of migrants crossing has slowed along his stretch of the border, which he attributes to a pre-election pause, as well as efforts from by Mexico to stop migrants here.

But he is preparing for what may come next, safeguarding the stockpiles of supplies painstakingly accumulated through donations and help from others.

"I don't know, how do you stop?" he said. "That's the thing. Once you start doing something like this. I really don't know how you have an off switch."



Sam Schultz, center left in grey hat, hands out blankets to a group of asylum-seeking migrants at a makeshift camp on Feb. 2 near Jacumba Hot Springs. **GREGORY BULL — AP**

SCIENCE

Placentas gain ground for skin grafts, healing burns

By Kate Morgan
THE NEW YORK TIMES

Marcella Townsend remembers looking around the kitchen in shock. In the silence just after the explosion, before the pain kicked in, she found herself almost in awe of the crushed stove and the caved-in cabinets.

"It was like Bigfoot had walked across the counters," she said.

In the aftermath of a propane explosion at her mother's house in Savannah, Georgia, in 2021, Townsend spent more than six weeks in an induced coma in a burn trauma unit. She had second- and third-degree burns over most of her body, and her face had become unrecognizable.

Searching for a way to help her, surgeons turned to a rarely utilized tool: human placenta. They carefully applied a thin layer of the donated organ to her face, which Townsend said was "the best thing they could have done, ever." She still has scars from grafts elsewhere on her body, but the 47-year-old's face, she said, "looks exactly like it did before."

During pregnancy, the placenta forms in the uterus, where it provides the fetus with nutrients and antibodies, and protects it from viruses and toxins. Then, it follows the baby from the body, still filled with a wealth of stem cells, collagens and cytokines that doctors and researchers have realized make it uniquely useful after birth, too.

Research has found placenta-derived grafts can reduce pain and inflammation, heal burns, prevent the formation of scar tissue and adhesions around surgical sites and even restore vision. They're also gaining popularity as a treatment for the widespread issue of chronic wounds.

And yet, of the roughly 3.5 million placentas delivered in the United States each year, most still wind up in biohazard disposal bags or hospital incinerators. That flummoxes Townsend, who returned to her job as a surgical assistant with a new perspective. "I'm constantly in these hospitals that don't donate or utilize the placental tissue," she said. "I hear the obstetrician say, 'I don't need to send that to pathology or anything; just trash it.' I cringe every time."

Decades ago, the medical community moved away from placenta usage due in part to fears brought on by the AIDS epidemic. Now, some doctors and researchers are arguing that the shift was misguided and that the placenta is an underused medical tool hiding in plain sight.

Because the placenta protects the fetus from the maternal immune system, its tissue is considered immunologically privileged: Even though it's technically foreign tissue, placental grafts have been found not to prompt an immune response in transplant recipients. That means, unlike skin grafts from animals or cadavers, placental grafts are basically not rejectable. The placenta's tissue also contains proteins and sugars that spur patients' cells to multiply quickly, and the grafts have been shown to encourage rapid skin and tissue regrowth. In one case,



Phyllis Thomas holds her three dogs in her home in Carrollton, Mo., on Oct. 5. After doctors brought an infection in Thomas' leg under control, they used placenta-derived grafts to close the wound. **DAVID ROBERT ELLIOTT — THE NEW YORK TIMES**

doctors essentially regrew the tip of someone's nose.

"We call it a healing factor, but a better way to put it is it's a regenerative factor," said Dr. Scheffer Chuei-Goong Tseng, an ophthalmologist in Miami who's spent decades studying the use of placental grafts to treat eye injuries and diseases and whose company manufactures and sells them. "Healing is broad; you can heal but still scar. We are talking about healing almost without scarring."

To make placental grafts, manufacturers collect free placentas from prescreened donors. The amniotic membrane, the innermost layer of the placenta that faces the fetus, is peeled off and sterilized. After it's cut to a uniform size and shape, the tissue is deep-frozen, dehydrated or freeze-dried. To use it on a patient, doctors unwrap a packaged slice of membrane and lay it over a wound or incision — the graft can be held in place with sutures or, in some cases, just a dressing.

The Food and Drug Administration allows amniotic membrane grafts (the technical term) to be sold so long as they are "minimally manipulated" — meaning cleaned, preserved and not altered beyond being harvested from the placenta — and intended to serve the same function in the recipient as it did in the donor, a spokesperson for the agency said.

That means that since the amniotic membrane serves as a barrier between the fetus and mother, doctors can use the grafts as internal or external bandages for surgical incisions, burns and the like.

Another FDA-sanctioned use is for treatment of chronic wounds that don't heal in a timely fashion or at all. Tending to such wounds can be a matter of life and death for the millions of people with them, including 10.5 million Medicare beneficiaries as of 2022. The five-year mortality rate for people with one type, a diabetic foot ulcer, is close to 30%. That rate rises above 50% for those who require amputation.

In such situations, placental grafts are emerging as a promising tool, reducing the likelihood of amputation and improving not only a patient's overall life expect-

tancy but also the quality of their remaining years, said Dr. Dennis Orgill, a professor of surgery at Harvard Medical School and the director of the Wound Care Center at Brigham and Women's Hospital in Boston. In one small study of 25 patients with foot wounds, for example, those treated with an amnion graft saw their wounds healed by an average of more than 98% in six weeks, while the wounds of those who received standard cleaning and dressing got nearly 2% bigger on average.

Phyllis Thomas, an 83-year-old from Carrollton, Missouri, was sure she'd lose her left leg to an infected wound that wouldn't heal after surgery in 2017. It stretched nearly the entire length of her calf, the necrotic tissue almost exposing the bone. The pain was excruciating, Thomas said. "I just wanted to call the doctor and say, 'I want you to get me somewhere and cut my leg off.'"

Doctors at the hospital tried radical measures to save the limb, including sealing 1,000 immature fly larvae inside and letting them go to work eating what Thomas called "the poison." The maggots, in combination with antibiotics, brought the infection under control, but to close the wound, they used amniotic membrane grafts. Thomas' leg healed completely.

When placed on difficult-to-heal wounds like Thomas', the grafts seem to "change the nature of the wound," said Dr. David Armstrong, a podiatric surgeon and wound care specialist with Keck Medicine of the University of Southern California. They can trigger what he called a "histologic reboot," priming even the most damaged tissue to heal.

It's not a replacement for a different type of skin graft or a better version, he said. Amniotic membranes seem to stimulate a different kind of healing entirely.

Physicians have been aware of the therapeutic properties of placental tissue for more than a century. In 1910, a surgeon at Johns Hopkins Hospital published findings that showed the amnion was a better skin-grafting material than grafts from other animals or human cadavers.

Other studies and clinical trials followed throughout the 20th century, using amnion for wounds and skin ulcers, surgeries and burns. Doctors came to understand that there were few things better to put on a wound.

"Back in the day, 70 or 80 years ago, when people got burned, someone would go up to the obstetric ward and get a placenta," Orgill said.

That understanding was part of what led a young pediatric surgeon named Dr. Andrew Walker, in 1979, to start a bank for donated placental tissue in Allentown, Pennsylvania. After sterilizing fresh amnion membranes in saline and penicillin, he was able to use them during surgeries and to treat patients' wounds and ulcers. He even sent amnion home with patients so they could reapply it on their own.

But by the late 1980s, the climate had changed. Growing concern about disease transmission amid the AIDS pandemic led placenta-based treatments to fall out of favor, and donated placentas became much harder to come by. Leading hospitals established protocols that would classify placentas as a biohazard. Walker's amnion bank shut down.

In the same decade, the young ophthalmologist Tseng was experimenting with using amniotic membrane grafts to repair the surface of the eye. Other doctors were soon using Tseng's techniques and finding more uses for the grafts, which are now a standard of care in ophthalmology, said Dr. Shailesh K. Gupta, director of the Broward Health ophthalmology residency program in southern Florida.

In patients with eye injuries like chemical burns or Stevens-Johnson Syndrome, a reaction to medication that can create holes in the cornea, blindness was once almost a foregone conclusion, Gupta said. Now, with the use of placental grafts, it's possible to restore some or all of a patient's vision.

"It's fundamentally a paradigm shift," he said.

Dr. Jennifer Tsai, an optometrist in New York City, said amniotic membrane grafts are a valuable tool in her practice. In a patient whose eyes were burned after a bottle of bleach toppled off a shelf, she said, grafts "helped to regen-

erate that cornea rapidly." Another patient, who got an ulcer after sleeping with contact lenses in, healed quickly after a placental graft. "It almost didn't look like it happened at all," Tsai said. "The cornea was pristine."

Beyond eye and wound care, some doctors are employing the grafts in creative ways. Neurosurgeons have used amniotic membrane grafts to repair the layer of connective tissue around the brain called the dura and to prevent the formation of scar tissue that can cause paralysis after spinal surgery.

Among gynecological surgeons, the grafts have proved effective at stopping scarring in the uterus after surgery for endometriosis. Orthopedic surgeons have found they can help repair torn cartilage during knee surgery. The National Institutes of Health lists hundreds of ongoing or completed trials using birth tissue in a range of procedures, including carpal tunnel, erectile dysfunction, arthritis, irregular heartbeat, tooth extraction and breast reconstruction.

"To me, the data are all in one direction on this one," said Armstrong, the wound care specialist at the University of Southern California.

The FDA is keeping a close eye on the wider field of regenerative medicine, which aims to restore tissues and organs damaged by disease or age. In addition to membrane grafts, some companies are making products from other birth tissue, including umbilical cord blood and amniotic fluid. It has issued consumer alerts about some products and has sent warning letters to manufacturers using ingredients which "haven't been adequately studied in clinical trials," the FDA said.

But when it comes to placental grafts specifically, the agency's spokesperson said that the FDA acknowledges the potential, and, while it counsels caution, that it is committed to providing a "development pathway for all regenerative medicine products — including those derived from human amniotic membrane."

Today, placentas exist in a liminal space between waste and not-waste, said Rebecca Yoshizawa, a sociologist

at Kwantlen Polytechnic University in Canada who studies the culture and politics of birth.

"They're incredible, and yet there's this irony that they're called waste," she said. "How can both be true at the same time?" In her research, Yoshizawa said, she has spoken to scientists who relayed "the feeling of having to rescue the placenta" from "ending up in the incinerator."

Mary Beth Phetteplace, a 33-year-old Orlando, Florida, resident, had hoped for a vaginal delivery during her first birth in 2021. But because of complications, doctors scheduled a C-section instead. When Phetteplace was approached about donating her placenta, she said, it was easy to say yes.

"I had no interest in saving it," she said, "but it could be so valuable to someone." After her surgery, Phetteplace said, a representative from the company she donated to visited her recovery room. "The lady told us one placenta could go to like 20 people. I thought that was so cool," she said.

Manufacturers depend on donors like Phetteplace to supply placentas for free, even though many are for-profit companies. "These companies, they're not giving their grafts away," Phetteplace said. "I'm astounded that I gave this gift, but they're making a profit on it."

"They're expensive, that's for sure," Armstrong said. A graft can cost between \$200 and \$3,000 per square centimeter, he said.

Ultimately, though, Phetteplace found the donation gratifying. In early 2023, she gave birth again by elective C-section. She donated her placenta that time, too.

For now, graft companies only take placentas delivered by elective C-section. Bypassing the birth canal means less bacterial exposure. And C-sections, which account for nearly one third of U.S. births, provide enough of a supply of placentas to meet the current demand.

But experts say that demand could be poised to rise. The use of amniotic membrane grafts is growing, albeit slowly, Armstrong said, because "medicine is, by its nature, conservative."

Three years after the explosion in her mother's kitchen, Townsend works in a number of Atlanta-area operating rooms. At the hospitals that take advantage of placental grafts, Townsend is now the surgical assistant that uses them to close a patient after a C-section, laying a graft over the incision in the uterus and placing another just below the skin to help with scarring.

"I am now putting the tissue in my hands and putting it on patients, and it's amazing," she said.

At the hospitals that still throw placentas away, Townsend said she encourages obstetricians to look into donation programs instead.

"Every time we take the placenta out after we deliver a baby, I'm like, this is so valuable," she said. "Sometimes, when we finish a surgery, I'll pull my mask down and show them my face and say, 'I'm the reason you're going to donate your placenta.'"