

Tiniest babies are growing up healthy despite odds

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This June 1989 file photo provided by the Loyola University Medical Center in Maywood, Ill., shows Madeline Mann shortly after her premature birth weighing 9.9 ounces. She is now an honors student in psychology at Augustana College in Rock Island, Ill. A medical report released Monday, Dec. 12, 2011, in *Pediatrics Journal* details their progress but says most babies born that small fare poorly. (AP Photo/Loyola University Medical Center, A. Hayashi)

One is a healthy first-grader, the other an honors college student majoring in psychology. Once the tiniest babies ever born, both girls are thriving, despite long odds when they entered the world weighing less than a pound.

A medical report from the doctor who resuscitated the infants at a suburban Chicago hospital is both a success story and a cautionary tale. These two are the exceptions and their remarkable health years later should not raise false hope: Most [babies](#) this small do poorly and many do not survive even with advanced medical care.

"These are such extreme cases," said Dr. Jonathan Muraskas of Loyola University Medical Center in Maywood, Ill. They should not be considered "a benchmark" to mean that doctors should try to save all babies so small, he said.

The report involves Madeline Mann, born in 1989 weighing 9.9 ounces, then the world record; and 7-year-old Rumaisa Rahman, whose 9.2-ounce birth weight remains the world's tiniest. Rumaisa's birth weight was initially reported as several ounces less, but that figure was based on a different conversion scale.

Two other babies born since 1989 weighed less than Madeline, and a German girl was born last year at her same birth weight.

The report was released online Monday in *Pediatrics*.

It addresses a question that was hotly debated when Madeline was born 22 years ago, remains hot now - and still has no answer: "What is the real age of viability? No one knows," said Dr. Stephen Welty, neonatology chief at Baylor College of Medicine and Texas Children's Hospital in Houston.

Muraskas and the report's co-authors say most newborn specialists consider babies born after 25 weeks of pregnancy to be viable - likely to survive - and so they should receive medical intervention if necessary to breathe. Younger babies are generally in a "gray zone," where intervention isn't always so clear cut, the report suggests.

In Japan, doctors have lowered that threshold - the [gestational age](#) - to 22 weeks. Normal pregnancies last about 40 weeks.

Some U.S. doctors will attempt to save babies at 22 weeks, but that is not done routinely, said Dr. Edward Bell, a University of Iowa pediatrics professor.

Bell runs an online registry of the world's tiniest babies, born weighing less than about 14 ounces, or slightly less than 1 pound. Since 1936, 124 have been listed. The registry is compiled from doctors' voluntary reports and so does not represent all

survivors.

Bell estimates that about 7,500 U.S. babies are born each year weighing less than 1 pound, and that about 10 percent survive.

Sometimes tiny babies with zero chance of surviving show signs of life at birth, and may be able to breathe for a short time if put in an incubator and hooked up to a breathing machine and intravenous treatments. "But even so, if it's a baby that doesn't have a chance, we don't want to put the baby and the family through the discomfort," Bell said.

Muraskas says his report highlights a sometimes overlooked fact: gestational age is even more critical for survival than size.

Rumaisa and Madeline were both palm-sized, weighing less than a can of soda pop - the average size of an 18-week-old fetus but they were several weeks older than that. Their gestational ages - almost 26 weeks for Rumaisa and almost 27 weeks for Madeline - meant their lungs and other organs were mature enough to make survival possible.

But both required intensive [medical intervention](#). They were delivered by cesarean section more than a month early because their mothers had developed severe pre-eclampsia, dangerously high blood pressure linked with pregnancy. Both babies were hooked up immediately to breathing machines with tubes as slender as a spaghetti strand slipped down their tiny airways.

Rumaisa has a twin who was more than twice as big at birth. Few details about her are included in the report.

Before the births, both mothers were given steroid drugs to speed up growth of the babies' immature lungs. Even so, Rumaisa and Madeline were on breathing machines for about two months, and hospitalized for about four months.

Madeline had mild brain bleeding, common in tiny preemies, but with no lasting effects. Severe cases can cause serious mental disabilities. She and Rumaisa got treatment for an eye condition

common in preemies called retinopathy, which in severe cases can cause blindness.

Madeline has asthma and remains petite - 4 foot 8 and about 65 pounds at age 20; Rumaisa at age 5 weighed 33 pounds and was 3 1/2 feet tall, smaller than about 90 percent of kids her age. Current information on the girls' size was not in the report; Madeline is now 22 and a senior at Augustana College in Rock Island, Ill.; Rumaisa is 7 and attends first grade in suburban Chicago.

Jim Mann, Madeline's father, said having a baby born so small was "terrifying" at first. But other than asthma, the only lasting effect his daughter has mentioned is having trouble finding age-appropriate clothes because she remains so small, he said.

That she has done so well is a source of pride, and wonder, her dad said.

"I don't know why, we were just extraordinarily lucky," Mann said.

More information: Pediatrics: <http://www.pediatrics.org>

Tiny Baby Registry: <http://bit.ly/eH3e20>

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