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Ultrasound gains give best peeks yet
Expectant mothers get a 3D/4D look at Baby

By Susan Palmer
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The black-and-white image on the ultrasound screen in the examination room pulsed rhythmically as expectant mother Melinda Miko watched.

Diagnostic medical sonographer Brandy Sundberg held the probe sending sound waves through Miko's body and explained the splotches of dark and light on the screen.

"That is Baby's heart, beating 138 beats per minute, which is just great," she said.

Sundberg moved the probe across Miko's tummy, and the screen shifted to the unmistakable image of tiny toes, then a perfect spine, then the baby's profile, its lips moving as it took a sip of amniotic fluid.

The image changed again, but this time it wasn't just two- dimensional swaths of light and dark.

Suddenly Miko could see her 23- week-old baby's face, no longer a shadowy profile, put a photographic-style image.

"Oh, my gosh. Hey, kiddo," Miko murmured, and Sundberg said, "All right! Baby is looking fantastic, Melinda."

Women's Care, an obstetric and gynecological medical practice in Eugene, recently purchased the new ultrasound equipment to enhance its diagnostic tools for expectant mothers and other patients. Known as 3D/4D ultrasound, it works just like the old system, using sound waves to create a picture of what's happening inside the body.

But unlike the old fuzzy snapshots pregnant women used to bring home and that often left the rest of us scratching our heads, the new technology clearly reveals a baby's features.

Referred to as 3D for enhanced still images and 4D for the ability to show movement, the new technology is appearing in more doctors' offices as its price has come down. The equipment that once cost a half-million dollars now costs about \$100,000.

While it doesn't open any new diagnostic doors for doctors, it does provide more clarity, making it easier for ordinary folks to comprehend what doctors were seeing on the older screens.

"It's not a tool that ultrasound sonographers really need," said Dr. Doug Austin, a reproductive endocrinologist at the Fertility Clinic associated with Women's Care.

"It's a way that patients can now be shown something that we've already seen in our minds," he said.

It's especially helpful when dealing with abnormalities or birth defects, Austin said. When parents can see a clearer image of the problem, it helps them be better prepared for the procedures and practices that will most help when their baby arrives, whether it's a cleft lip or spina bifida - a condition that leaves the spine exposed.

"That's crucial," Austin said, "to have people understand the abnormality and what will be required."

Such information is particularly important for older moms who face increasing risks as they age. A woman in her 40s, for example, faces a 50 percent chance of miscarriage and a 1 in 18 chance of having a baby with a genetic abnormality, Austin said.

Despite those risks, more women have chosen to postpone becoming mothers, according to state health statistics. The number of women giving birth for the first time in their 30s and early 40s has skyrocketed in the past 30 years, increasing more than 200 percent for women ages 30 to 34 and 900 percent for women ages 34 to 40.

Miko, who is 35, found the 3D/4D ultrasound useful in making a decision about having amniocentesis, a more precise but more invasive diagnostic tool that, unlike ultrasound, carries some risk. In that procedure, a needle is inserted into a woman's uterus and a small amount of amniotic fluid is extracted. From it, doctors can identify the presence of many genetic defects, including Down syndrome.

Deciding whether to have that procedure becomes an odds game, Miko said. At 35, she has a 1 in 300 chance of giving birth to a baby with some kind of defect, about the same risk that she'll miscarry if she has the amniocentesis.

But the ultrasound coupled with some sophisticated blood tests gave Miko and her husband, Jonathan, enough information to make a choice.

"We determined that we didn't need to take it any further," she said.

Like the older ultrasounds, the new technology also allows parents to know the gender of their baby, but Miko and her husband prefer to be surprised at the baby's birth. The couple already have a daughter, who is almost 3.

For gynecology patients, the technology offers three-dimensional images of uterine abnormalities such as endometrial polyps and the precise location of fibroid tumors in the endometrium.

But there's more to these images than sheer medical information and diagnosis, said Miko and Sundberg. Seeing the unmistakable image of your baby creates a powerful first bonding experience, that's important for moms and dads.

"It's so easy to forget what a miracle babies are, how much of a person they are," Miko said. "It helps keep you excited."

As Sundberg moved the wand around in the 3D mode, Miko got a good look at her little one - plump arms, sweet cheeks, perfect lips.

"Ah, you cute little pumpkin," she said, looking up at the screen. "I don't know if your sister's ready for you, but I sure am."

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