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A DO-IT-YOURSELF monitor has been developed to allow pregnant women to listen to their own babies in the womb. The hand-held device uses ultrasound to check for a baby's heartbeat and is based on the same technology used by hospitals to screen for foetal abnormalities.

Called Babycom, the monitor enables expectant mums to carry out regular checks in between routine hospital scans. It works by calculating the baby's heart rate so the mother can detect any significant changes.

The device is being recommended by some doctors as a means of reassuring women that their child is fine inside the womb.

'It's enormously useful in reducing a mother's anxiety when the baby is not moving,' says Tim Heymann, a consultant physician at Kingston Hospital in Surrey. 'They can just stick it on at any time and pick up the baby's heartbeat.'

Mums-to-be usually undergo two ultrasound scans at hospital, when they are 12 and 21 weeks pregnant. These screen for any physical defects and make sure the baby is growing properly. A midwife will also listen for the baby's heartbeat during routine antenatal appointments.

But for some women, the periods in between these checks can cause distress and anxiety — particularly if they have suffered a previous miscarriage.

Because babies can move around so much in the womb, it can sometimes be difficult to detect a heartbeat without the aid of medical equipment.

LIKE hospital scanners, the Babycom uses sound waves to pick up the presence of a beating heart. The tip of the hand-held device contains two tiny crystals. One transmits low ultrasonic waves, while the other detects reflected waves.

As these waves hit moving tissue — in this case the baby's heart — they bounce back and there is a slight change in pitch. This is known as the Doppler shift and is the basis upon which most ultrasound procedures are based. The Babycom translates these waves into the sound of a foetal heartbeat.

Just as in hospital, a special gel is first applied to the abdomen to help conduct the signals, which do not travel through air easily.

Because the device has a wide ultrasound beam, it can pick up the sound of the heart when placed almost anywhere on the mother's tummy.

Once a clear foetal heartbeat is detected, the Babycom automatically calculates the rate at which it is beating by taking the average time for ten beats. This is then fed to an electronic display which can distinguish between the baby's heart and the mother's.

The baby's heart usually beats between 140 and 160 times per minute — roughly twice that of the mother — and sounds like a galloping horse.

The device is suitable for use from the 12th week of pregnancy,

By PAT HAGAN

but doctors stress women should not use Babycom instead of going for regular antenatal checks.

'Some women who have had previous problems are asked to keep a kick chart, to record when the baby moves or kicks,' says Tim Heymann, 'but Babycom is a great alternative to that.'

'For example, the midwife might tell the mother to telephone for advice if the foetal heartbeat drops below 120 beats per minute.'

'The monitor is also a great way of introducing new babies to other children in the family, by allowing them to share the sound of the heartbeat.'

'Although the antenatal scan is

tremendously exciting, you see the foetus for only a few minutes and then it's gone.'

Caroline Merritt, from Chiswick in West London, is six months pregnant and has been using Babycom for the past month.

She heard about the device through a friend who is a doctor and decided to try one after her first child, Georgia, who is two-and-a-half years old, was born smaller than expected.

'Even though I went full-term, she weighed only 5lb at birth,' says 37-year-old Caroline. 'The doctors did not pick up the fact that she was quite small.'

'Georgia made up for it by putting on a pound-and-a-half in the first week — but this time round anything that can give me peace of mind will help.'

Caroline uses the Babycom every

two to three days just to check that all is well. The whole process takes a few minutes, and although she understands it may not save her baby's life if anything should go wrong, she still finds it reassuring.

'Sometimes, when I've had a stressful day, I just want a bit of peace and quiet. I find it really relaxing and reassuring just to listen to the baby's heart beating,' she says.

'Babycom is really small and much easier to use than I expected. But I still have my regular hospital checks, too.'

■ **FOR details on Babycom, contact London Aesthetics on 0845 060 1758.**

Health check: Using a Babycom, Caroline Merritt, with Georgia, can monitor her unborn baby's heartbeat

