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**BBC**

**Baby heart defect test 'could save lives'**

By James Gallagher Health reporter, BBC News



A quick and cheap test could save the lives of babies born with congenital heart defects, doctors say.

A study of 20,055 newborns, [published in The Lancet](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2811%2960753-8/abstract), showed testing oxygen in the blood was more successful than other checks available.

The researchers have called for the oxygen test to be used in hospitals across the UK.

The British Heart Foundation said the test could "make a real difference" as cases go unnoticed.

Congenital heart defects - such as holes between chambers in the heart and valve defects - affect around one in every 145 babies.

They are detected by ultrasound during pregnancy or by listening to the heart after birth, however, the success rate is low.

Decades old

Doctors at six maternity hospitals in the UK used pulse oximeters - a piece of technology which has been around for 20 years - to detect levels of oxygen in the blood.

If the levels were too low, or varied between the hands and feet, more detailed examinations took place.

The test takes less than five minutes and it found 75% of the most serious abnormalities.

In combination with traditional methods, 92% of cases were detected.

While some defects are inoperable, advances in surgery mean most can be corrected.

Dr Andrew Ewer, the lead researcher at the University of Birmingham, called for the test to be adopted by hospitals across the UK.

"It adds value to existing screening procedures and is likely to be useful for identification of cases of critical congenital heart defects," he said.

Dr David Elliman, from the UK National Screening Committee, said [the screening programme for infants](http://newbornphysical.screening.nhs.uk/public) was being reviewed and "this research will form an integral part of that review".

Amy Thompson, senior cardiac nurse at the British Heart Foundation, said: "Early and rapid detection is key for greater survival.

"Not all babies who are born with a heart defect will show any signs or symptoms, so problems can go unnoticed.

This is a promising piece of research which shows how a quick and simple test could help to detect more heart defects and make a real difference."

In the US, some states have already introduced the oximeter test.

Dr William Mahle, from Emory University School of Medicine in Atlanta, and Dr Robert Koppel, from Cohen Children's Medical Center in New York, argued that: "The decision to introduce another screening assay for newborn babies is one that should be made after careful consideration.

"Health-care systems in the developed world are already heavily burdened.

Yet the compelling data provided [here] support inclusion of pulse oximetry into the care of the newborn baby."

DAILY MAIL (London)

August 5, 2011 Friday

**SIMPLE SENSOR THAT COULD SAVE A** **BABY'S LIFE**  
  
**BYLINE:** BY JENNY HOPE MEDICAL CORRESPONDENT  
  
**LENGTH:** 481 words

All babies should be routinely screened at birth for life-threatening heart defects using a simple and painless test, say researchers.

The pulse oximetry test measures blood oxygen levels in newborns with a small skin sensor placed on a hand or foot.

The test identifies some babies with congenital heart defects Ð one of the major causes of infant death in the western world Ð which would otherwise be missed by doctors.

In some cases, infants would only be diagnosed at a later stage when they have developed serious complications or died.

Identifying the problems early on allows doctors to correct or reduce them with surgery, where possible, or prescribe medication.

Heart defects affect one in 145 newborn babies in the UK, and current techniques for identifying babies with a congenital heart defect involve ultrasound scans and routine physical examinations shortly after birth.

These methods pick up around half of affected babies, while the pulse oximetry test can pick up three-quarters alone.

In a study, it was used on more than 20,000 babies born at six maternity units across the West Midlands who all appeared to be healthy at birth.

The tests, conducted between February 2008 and January 2009, detected 53 cases of major congenital heart disease, 24 of which were critical.

In 35 cases, congenital heart defects were already suspected after ultrasound examinations.

But 18 cases identified by pulse oximetry had not been picked up by ultrasound.

The test spotted three-quarters of all critical cases.

When it was combined with ultrasound and physical examination, the detection rate rose to 92 per cent and no babies died from undiagnosed problems.

It did not detect all cases of 'critical' congenital defects because some are not associated with low oxygen levels in the blood.

The findings were published in an online edition of The Lancet medical journal.

Lead researcher Dr Andrew Ewer, from the University of Birmingham, said the test was simple, painless and non-invasive, and usually performed within 24 hours of birth.

He said: 'A small probe is put on the baby's hand and then on the foot, the machine is switched on and you obtain a reading.

That's it.

It takes longer to undress the baby than it does to do the test.

'This study has shown conclusively that this test is advantageous.

We would like to see all babies being routinely tested.

In this way the test will pick up additional babies who might otherwise have become very ill or even died.

'I think we now have enough evidence to say that pulse oximetry screening should be incorporated into everyday clinical practice.'

The test also flagged up some non-heart related problems such as respiratory disorders and infections.

Amy Thompson of the British Heart Foundation said: 'Although great progress has been made in the treatment and care of congenital heart disease, early and rapid detection is key for greater survival.'

Independent.co.uk

August 5, 2011 Friday 12:00 AM GMT

**Simple test can detect heart defects in babies**  
**BYLINE:** By John von Radowitz  
  
**SECTION:** HEALTH NEWS  
  
**LENGTH:** 163 words

All new babies should be routinely screened for life-threatening heart defects using a simple and painless test, researchers say.

The pulse oximetry test measures blood oxygen levels in newborns using a small skin sensor on the hands or feet.

In a study of 20,000 babies in the West Midlands, the technique detected 53 cases of major congenital heart disease, of which 18 had been missed by the ultrasound tests that are now in use.

It identified three-quarters of critical cases and when combined with physical examinations and ultrasound there was a 92 per cent identification rate, according to findings published in The Lancet.

Congenital heart defects, a major cause of infant death in the developed world, affect one newborn in 145 in the UK.

Dr Andrew Ewer, of the University of Birmingham, said: "We would like to see all babies being routinely tested.

We have enough evidence to say that pulse oximetry screening should be incorporated into everyday clinical practice."

The Guardian (London) - Final Edition

August 5, 2011 Friday

**Heart test could save babies, researchers say**  
**BYLINE:** Sarah Boseley, Health editor  
  
**SECTION:** GUARDIAN HOME PAGES; Pg. 12  
  
**LENGTH:** 326 words

A routine screening test for all newborn babies could save the lives of somewith congenital heart defects, say researchers.

A number of babies' heart defects are spotted during a mid-pregnancy ultrasound scan and others may be picked up in routine physical examinationsafter birth.

But sometimes the problem is not spotted until the baby becomes ill at home.

Congenital heart defects are one of the main causes of of baby deaths in the developed world.

A study published in the Lancet says lives could be saved if all newborn babies were given a cheap and simple test to establish the oxygen levels in their blood.

Small studies of the pulse oximetry test - in which sensors are placed on a hand and foot - have proved inconclusive, so the National Institute for Health Research funded the study by Andrew Ewer and colleagues from Birmingham University and Birmingham Women's hospital to determine whether it would be useful for the NHS.

Their study in six maternity centres in the UK involved 20,000 babies between February 2008 and January 2009.

The test detected 75% of all critical cases (those that result in death or surgery within 28 days of birth) and 49% of major congenital heart defects (causing death without surgery within 12 months).

The authors calculate that 264 out of 100,000 newborn babies would have major congenital heart defects' 130 of which would be identified by the test.

Around 120 babies would be critical cases, 90 of whom would be identified by pulse oximetry.

Combining the test with ultrasound and the routine physical examination after birth, 92% of congenital heart defects were identified.

No babies in the study died from undiagnosed heart disease.

"Pulse oximetry is a safe, non-invasive, feasible and reasonably accurate test.

It is likely to be useful for identification of cases of critical congenital heart defects," say the authors.

The Department of Health said the UK national screening committee would consider the study.

The Scotsman

August 5, 2011, Friday   
4 Edition

**Screen every newborn for heart defects, urge doctors**  
**BYLINE:** Lyndsay Buckland Health Correspondent  
  
**SECTION:** Pg. 13  
  
**LENGTH:** 496 words

All babies should be routinely screened for potentially fatal heart defects at birth using a simple and painless test, experts have said.

The test - known as pulse oximetry - measures blood oxygen levels using a small skin sensor placed on a hand or foot.

British research now shows the test can identify babies with congenital heart defects which would otherwise be missed by doctors.

Many of these babies could go on to develop a serious complication if left unidentified and could even die.

But by identifying the problems early, doctors can correct or reduce them with surgery, or prescribe medicines.

The latest research by a team at the University of Birmingham was welcomed by experts.

Heart defects from birth are one of the leading causes of infant death in the developed world and affect one in 145 newborns in the UK.

Current techniques for identifying a congenital heart defect involve ultrasound scans during pregnancy and routine physical examinations shortly after birth.

But these can leave many babies with undiagnosed problems.

The new study, the largest of its kind ever undertaken in the UK, tested the accuracy of pulse oximetry on more than 20,000 babies born at six maternity units in the West Midlands.

The tests detected 53 cases of major congenital heart disease, 24 critical.

In 35 cases, congenital heart defects were already suspected after ultrasound examinations.

But 18 cases identified by pulse oximetry had not been picked up by ultrasound.

The test was able to spot three quarters of all critical cases.

When it was combined with ultrasound and physical examination, the detection rate of critical heart abnormalities rose to 92 per cent and no babies died from undiagnosed problems, according to the study published in The Lancet.

Lead investigator Dr Andrew Ewer said: "This study has shown conclusively this test is advantageous.

We would like to see all babies routinely tested.

In this way the test will pick up additional babies who might otherwise have become very ill or even died.

"I think we have enough evidence to say pulse oximetry screening should be incorporated into everyday practice."

Amy Thompson, senior cardiac nurse at the British Heart Foundation, said: "Not all babies who are born with a heart defect will show any signs or symptoms, so problems can go unnoticed.

This is a promising piece of research which shows how a quick and simple test could help to detect more heart defects and make a real difference."

Two US experts backed the new test while sounding a note of caution. Dr William Mahle, of Emory University School of Medicine in Atlanta, Georgia, and Dr Robert Koppel, of Cohen Children's Medical Centre in New York, said: "The decision to introduce another screening assay [test] for newborns is one that should be made after careful consideration.

Healthcare systems in the developed world are already heavily burdened.

Yet the compelling data provided support inclusion of pulse oximetry into the care of the newborn."

The Sun (England)

August 5, 2011 Friday   
Edition 1;   
Scotland

**KID TEST CALL**  
**SECTION:** NEWS; Pg. 20  
  
**LENGTH:** 66 words

ALL newborns should be screened for heart defects using a simple skin test, researchers said yesterday.

A sensor measuring blood oxygen levels detected 53 cases of major congenital heart disease in 20,000 West Midlands babies tested in a study.

Untreated, many could have developed serious complications or died.

Researchers said early identification allowed doctors to correct or regulate conditions.

The Times (London)

August 5, 2011 Friday   
Edition 1;   
Scotland

**Simple blood oxygen test 'would save babies' lives'**  
**BYLINE:** Sam Lister  
  
**SECTION:** NEWS; Pg. 8  
  
**LENGTH:** 299 words

Newborn babies should be screened routinely for life-threatening heart defects using a simple sensor placed on the skin, researchers say.

A British study involving more than 20,000 babies suggests that carrying out a pulse oximetry test, which measures oxygen levels in the blood, would identify newborns with congenital heart defects and save many lives.

Current screening for such problems involves ultrasound before delivery and routine examination in the first 24 hours after birth, but can often fail to pick up serious heart defects.

Midwives at six maternity units in the West Midlands used the PulseOx test, where a small probe is put on the baby's hand and then on the foot.

Babies with low oxygen levels in the blood soon after birth may be at increased risk of heart defects.

Those who failed the test were given a heart ultrasound.

Of 195 babies with an abnormal result in the test, 26 had a major congenital heart defect and a further 46 had other significant problems that required urgent treatment.

Heart defects present from birth are one of the leading causes of infant death in the developed world and affect one in 145 newborn babies in the UK.

The research, which is published in The Lancet, was carried out between February 2008 and January 2009.

Of the 26 babies with major heart defects picked up by the PulseOx test, 18 were critical cases and eight serious.

It did not pick up a further six critical cases.

Dr Andrew Ewer, who led the research team from the University of Birmingham and Birmingham Women's Hospital, described the study as compelling evidence for routine testing.

"It takes longer to undress the baby than it does to do the test," he said.

"This study has shown conclusively that this test is advantageous.

We would like to see all babies being routinely tested."