

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**
A223/01/INS
TWENTY FIRST CENTURY SCIENCE
BIOLOGY A
**Unit 3: Ideas in Context plus B7
(Foundation Tier)**
INSERT

FRIDAY 12 JUNE 2009: Morning
DURATION: 1 hour

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

INSTRUCTIONS TO CANDIDATES

This insert contains the article required to answer question 1.

Read the article about breast cancer and use it to answer question 1.

WIDE HIPS INCREASE RISK OF BREAST CANCER

Scientists have found that female babies of mothers with wide hips are more likely to develop breast cancer later in life.

The scientists' research involved six thousand women. The scientists found that babies of women with wide hips are 3 times more at risk of developing breast cancer. If the pregnancy lasts for longer than normal term, and the babies have older brothers and sisters, the risk increases to 7 times.

The hip width is the distance from one hip bone across to the opposite hip bone. This is called the 'intercristal diameter'. The scientists found that an intercristal diameter of more than 30 cm was a wide hip. For women with wide hips, their baby's risk of developing breast cancer later in life increased by 3 times. This risk factor increased even more if the pregnancy was longer than normal term.

Scientists think that this is linked to the level of the hormone oestrogen in the mother's body during pregnancy. It is thought that high levels of oestrogen in the blood at the beginning and end of pregnancy can cause changes in the immature breast tissue of the developing fetus. Women with wide hips produce more oestrogen, so their babies are exposed to higher levels of the hormone.

Doctors have used a synthetic oestrogen for many years. It has been given to women who were at risk of having a miscarriage. Using synthetic oestrogen doubled the risk of their babies getting breast cancer later in life.

Scientists are hopeful that now these links are understood, special drugs will be developed to lower oestrogen levels. The drugs could be given to pregnant women whose babies are at risk. This would be a major breakthrough in the prevention of breast cancer.



Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations, is given to all schools that receive assessment material and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1PB.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.