Foreword

Embryos and the Bible

The Bible clearly supports the view that life begins at conception.

David said he was "sinful from the time my mother conceived me". So David was in need of a Saviour from the very point of his conception.[1] Job speaks of God moulding him like clay and forming his skin, flesh and bones.[2]

In Psalm 139, the Psalmist praises God whom he says "created my inmost being … [and] knit me together in my mother's womb".[3] God's knowledge of the Psalmist goes back to his creation in the womb when he "was made in the secret place".[4] God saw his "unformed body", that is God saw the Psalmist as an embryo.[5]

The incarnation

Jesus Christ reveals not only the nature of deity but also the nature of what is human. It is the central claim of the Christian faith that God became man and dwelt among us[6] to become the Saviour of men.[7]

The life of Jesus Christ on earth began when "he was conceived by the Holy Spirit and born of the virgin Mary".[8] The incarnation began with the virginal conception and not in the manger in Bethlehem.

The gospel of Luke states that the Holy Spirit came upon Mary and the power of the Most High overshadowed her (Luke 1:35).

God became incarnate as an embryo. The consistent teaching of the Church is that Jesus' humanity began at conception. The only difference between Jesus' humanity and ours is that Jesus was without sin (Hebrews 4:15). The writer to the Hebrews is clear that Jesus had to be made like us in every way.[9]

The phrase "to be made" must refer to Jesus' gestation, his development in his mother's womb. It cannot refer to Jesus being a created being since the writer to the Hebrews begins by dramatically asserting that Christ is divine, the Son of God, begotten not created. Referring to Psalm 2:7, he asks, "For unto which of the angels said he at any time, "Thou art my Son, this day have I begotten thee"? (Hebrews 1:5 KJV).

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[1] Psalm 51:5
[2] Job 10:9-11
[3] Psalm 139:13
[4] Psalm 139:15
[5] Psalm 139:16
[6] John 1:14
[7] John 3:17
[8] The Apostles' Creed
[9] Hebrews 2:17

The American evangelical theologian Professor Gresham Machen, wrote a classic defence of the virgin birth in 1930. This was widely acclaimed by Protestants and Catholics alike.

Gresham Machen wrote of the doctrine of the incarnation
"To that doctrine it is essential that the Son of God should live a complete human life upon this earth. But the human life would not be complete unless it began in the mother's womb. At no later time, therefore, should the incarnation be put, but at that moment when the babe was conceived. There, then, should be found the stupendous event when the eternal Son of God assumed our nature, so that from then on He was both God and man."[10]

Human personhood begins at conception and the human embryo is precisely that – a human embryo.

The image of God

Because "God created man in his own image"[11] he has an entirely different status from other animals. No animal is made in God's image or has a soul. Uniquely in the created order, it is human life which is specially protected in the Bible.

The fundamental prohibition on killing, and the basis for it, is set out in Genesis 9:6: "Whoever sheds the blood of man, by man shall his blood be shed: for in the image of God has God made man".

Our significance, and so the claim to protection, derives not from our 'quality of life' or gifts and abilities, but from our status as being made in God's image.

Professor John Wyatt, Professor of Neonatal Paediatrics at University College, London, rejects the notion that personhood depends on how you function:
"...in Christian thought, the dignity of a human being resides not in what you can do, but in what you are, by creation. Human beings do not need to earn the right to be treated as Godlike beings. Our dignity is intrinsic, in the way we have been made..."[12]

Professor Wyatt argues that because of this intrinsic dignity there is a duty of care for the embryo:
"I therefore find myself driven by the thrust of the Biblical material, by theological arguments and by the undeniable reality of widespread human intuitions about abortion, to the conclusion that we owe a duty of protection and care to the embryo and the early fetus as much as to the mature fetus and newborn baby…. There is no point from fertilization onwards at which we can reliably conclude that a human being is not a member of the human family, one who is known and called by God, one with whom we are locked in community."[13]

[10] Machen G The Virgin Birth of Christ, James Clarke, London, (1958 edition), page 394
[11] Genesis 1:27
[12] Wyatt J Matters of Life and Death, IVP/CMF, 2001 edition, page 55
[13] Ibid, page 155

The incarnation and the image of God
The incarnation was made possible precisely because man was made in God's image.

As Nigel Cameron states
"For the reason why God could become man was that man, his creature, already bore his image; he already reflected the personal character of God in a human form. For God to become man in embryo therefore requires that man in embryo already bears the image, and absolutely forbids the possibility that in the early stages of his biological life the divine image can be absent."[14]

The morning after pill: the medical cost of reducing teenage pregnancies.

Introduction
In January 2001, the Government sanctioned the over-the-counter sale of the morning after pill from chemists. At the same time, health officials in some local authority areas allowed school nurses to give out the morning after pill to under-age schoolgirls. This led to a significant debate about the use of the morning after pill to combat teenage pregnancies.

This briefing considers some medical data about the morning after pill including information about how the morning after pill works, and what side effects it has. It raises significant questions about the medical risks of giving the morning after pill to under-age girls. It suggests that using the morning after pill to combat teenage pregnancy is flawed and reckless.

Basic chemistry
The morning after pill is also known as 'emergency contraception'. It is a drug which is taken in order to stop a woman from becoming pregnant after she has had unprotected sexual intercourse. (Unprotected sexual intercourse means where contraception has not been used or where it has been used but has failed.)

There were two types of morning after pills but now there is only one. Both types contain high doses of female hormones.

[14] Cameron N Embryos and Ethics, Rutherford House Books, 1987, page 13

The original morning after pill was called PC4 and it contained a progestogen and oestrogen. It was discontinued in October 2001[15] because of the introduction of Levonelle-2 which only contains a progestogen.

Levonelle-2 has replaced PC4 because, firstly, it is less likely to cause a side effect. For example, PC4 causes nausea in 50.5% and vomiting in 18.8% of women who take it. In comparison Levonelle-2 causes nausea in 23.1% and 5.6% of users.[16]

Secondly, most women can take Levonelle-2 without risk to their health. By contrast, PC4 was not recommended in women who have a history of blood clots or who are suffering from focal migraine when the pill is due to be taken.[17]

When is Levonelle-2 taken?

2 tablets of Levonelle-2 are taken 12 hours apart within 72 hours of unprotected intercourse. Although recently The British Medical Journal recommended that both tablets could be taken all at once up to 120 hours after unprotected intercourse.[18]

The morning after pill contains a large dose of female hormone. This can be illustrated by comparing the morning after pill to the progestogen only pill ('mini-pill') – a common contraceptive pill.

- 1 mini-pill is taken each day for contraceptive purposes.
- 1 Levonelle-2 tablet is equivalent to 25 mini-pills.[19]

Or, to put it another way –

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[15] Drug Info Zone, see www.druginfozone.nhs.uk/Record%20Viewing/viewDetail.aspx?ids=498475 as at 7 May 2003 and 'Emergency contraception (hormonal)', GPnotebook, see www.gpnotebook.co.uk/simplepage.cfm?ID=1892679710 as at 7 May 2003

[16] 'Randomised controlled trial of Levonorgestrel versus the Yuzpe regimen of combined oral contraceptives for emergency contraception. Task Force on Postovulatory Methods of Fertility Regulation', *Lancet*, 1998, 352(9126), pages 428-33

[17] 'Contraindications to morning after pill', GPnotebook, see www.gpnotebook.co.uk/simplepage.cfm?ID=644546610&linkID=10794&cook=no as at 7 May 2003
Other contraindications to PC4 = active acute porphyria, current severe liver disease
Other contraindications to Levonelle-2 = active acute porphyria, current severe liver disease

[18] Webb AMC, 'Emergency contraception', *BMJ*, 326, 2003, pages 775-776

[19] Wyeth Pharmaceuticals, 'Microval data sheet', last updated 24 August 2001. Microval contains 30 mg of Levonorgestrel
Schering Health Care Limited, 'Levonelle-2 data sheet', last updated 19 October 2001. Levonelle-2 contains 750 mg of Levonorgestrel

- A complete course of Levonelle-2 is equal to
  50 mini-pills or 7 weeks supply of normal contraception.

How effective is Levonelle-2?

Overall Levonelle-2 prevents 85% of the pregnancies that would have happened.[20] However, the ability of Levonelle-2 to prevent pregnancy decreases over time.

Thus if Levonelle-2 is taken within 24 hours of unprotected intercourse, 95% of pregnancies would be prevented. If Levonelle-2 is taken between 25 and 48 hours after unprotected intercourse, 85% of pregnancies would be prevented. This percentage drops to 58% if Levonelle-2 is taken between 49 and 72 hours after unprotected intercourse.

It is not known how many pregnancies are prevented if Levonelle-2 is taken more than 72 hours after unprotected intercourse.[21] However a recent paper in the British Medical Journal stated that pregnancy rates were not significantly higher in women who took both Levonelle-2 tablets together up to 120 hours after unprotected sexual intercourse. Therefore it was suggested that the 72 hours cut-off point for starting treatment was unnecessary and could be extended to 120 hours.[22]

This change in the way that women take the morning after pill is likely to increase usage for two reasons. Firstly, because it is easier to take two tablets in one go than to remember to take another tablet 12 hours after the first. Secondly, because it gives women a longer period in which to take the morning after pill – 5 days instead of 3 days.

How does Levonelle-2 work?

Explanatory notes

An egg is released from one ovary each month.

The fallopian tube is where the egg and sperm meet and fertilisation takes place.

The womb or uterus is where the embryo implants.

[20] Schering Health Care Limited, *Op cit*
[21] *Loc cit*
[22] Webb AMC, *Op cit*, pages 775-776

Levonelle-2 works in 3 ways. (NB: Two of the actions of Levonelle-2 are contraceptive, that is, they stop conception taking place.)

- One of the contraceptive actions of Levonelle-2 is that it prevents the release of an egg from the ovary. Because no egg is released from the ovary, there is no egg to be fertilised and therefore conception does not occur.

- The second contraceptive action of Levonelle-2 is that it slows down the movement of the egg and sperm. This prevents them meeting so fertilisation does not take place.

- One of the actions of Levonelle-2 works *after conception has taken place* – it stops the newly formed embryo from implanting in the womb. Without implantation, the pregnancy is expelled and the baby dies.

When does life begin?

From an ethical standpoint life begins at conception for two reasons.

Firstly, according to Christian understanding, Jesus the Son of God became a unique being at conception. The Bible says, "...what is conceived in her is from the Holy Spirit".[23]

Secondly, according to scientific understanding we are all unique beings genetically – unless you happen to be an identical twin. And we are all unique beings genetically *from conception*.

The genetic information from your mother (which is in the egg) and the genetic information from your father (which is in the sperm) combined to form you – a person who is genetically different from either parent. This event took place at conception where the unique genetic being that is you was created.

From a legal standpoint life begins at implantation – which takes place 5 days after conception has occurred. Thus in 1983 the Attorney General stated that according to the definitions in the Abortion Act of 1967, preventing the implantation of an embryo is not an abortion.[24]

Similarly, Emergencybirthcontrol.org, an advisory website currently on the Internet, states that:

[23] Matthew 1:20
[24] House of Commons, Hansard, 19 July 2000, col. 221W

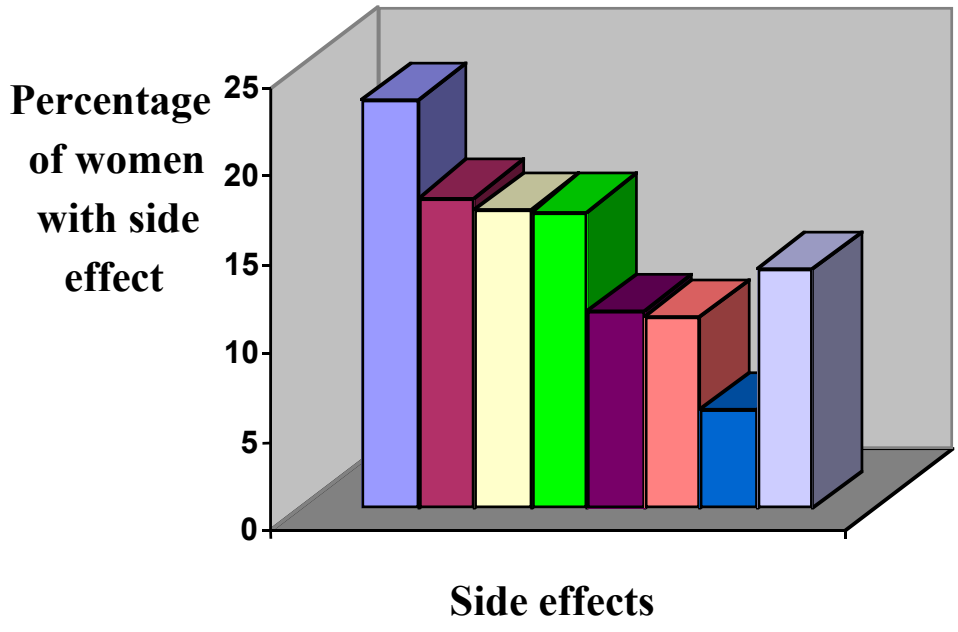
"Medical science defines the start of pregnancy as the implantation of a fertilized egg in the uterus."[25]

[Note that in this definition the embryo is dehumanised by being called a 'fertilised egg' rather than an embryo.]

"Emergency birth control pills will not work after a woman has already become pregnant. They therefore do not and cannot cause an abortion."[26]

What are the side effects of Levonelle-2?

This chart shows the percentage of women who develop side effects after taking Levonelle-2.[27]



23.1% experience nausea

17.6% experience low abdominal pain

[25] 'Why do some people say that emergency birth control is an abortifacient (something that causes an abortion)', Emergency Birth Control website, see www.emergencybirthcontrol.org/FAQ_6.htm as at 7 May 2003

[26] 'How EBC works', Emergency Birth Control website, see www.emergencybirthcontrol.org/content_how EBCworks.htm as at 7 May 2003

[27] Schering Health Care Limited, *Op cit*

- 16.9% experience fatigue
- 16.8% experience headaches
- 11.2% experience dizziness
- 10.8% experience breast tenderness
- 5.6% experience vomiting
- 13.5% experience other undesirable side effects such as diarrhoea and irregular vaginal bleeding or discharge.

Levonelle-2 can also cause ectopic pregnancies. As previously discussed, it slows down the movement of the egg and sperm. However, if the egg and sperm do somehow meet and fertilisation takes place, Levonelle-2 may also slow down the movement of the newly formed embryo down the fallopian tube so that it implants in the tube instead of the womb. This then forms what is known as an 'ectopic pregnancy'. Ectopic pregnancies can be life-threatening.

In January 2003 the Chief Medical Officer, Sir Liam Donaldson, sent a memo to all doctors. The memo stated that there had been 12 ectopic pregnancies in 201 women, that is, 6% of women who had become pregnant after Levonelle-2 had failed to prevent a pregnancy.[28]

There are three things worth noting about this recent disclosure about Levonelle-2 and ectopic pregnancies.

Firstly, although 6% seems to be a low figure, from a medical viewpoint, 6% is high enough to show that there is a definite increased risk of having an ectopic pregnancy after taking Levonelle-2.

Secondly, the progestogen only pill (mini-pill) is also known to increase a woman's risk of developing an ectopic pregnancy – so it is not surprising that Levonelle-2, which contains a large dose of progestogen, can also cause ectopic pregnancies.

To date the focus has been on how safe Levonelle-2 is compared to its predecessor PC4 rather than on the effect that Levonelle-2 may have. Are there any other potentially harmful side effects of Levonelle-2 that are yet to be revealed?

Thirdly, what are the implications for schoolgirls who have taken the morning after pill? Are they likely to report to their school nurse, GP or

[28] 'Levonelle/Levonelle-2 emergency contraception: new advice', *CMO's update 35*, January 2003, page 9

pharmacist if they subsequently develop a problem? We should bear in mind that schoolgirls under 16 years old may be given the morning after pill by a school nurse without the consent, or even the knowledge, of her parents.

What are the effects of Levonelle-2 in schoolgirls?

The Government is concerned about the teenage pregnancy rate, which is the highest in Western Europe. In 1999 its Social Exclusion Unit produced a White Paper on teenage pregnancy in which it stated, "Every year some 90,000 teenagers in England become pregnant. They include nearly 8,000 who are under 16."[29]

Around the time that the Government was looking for a solution to the problem of teenage pregnancies, two morning after pill pilot studies were taking place in Manchester and South London.[30] In each scheme the morning after pill was made available free of charge at designated pharmacies from a specially trained pharmacist after a ten-minute interview.[31]

In South London, 6,294 pills were handed out in the first year, with 2% of these being given to under 16 year olds. In Manchester, 7, 208 pills were distributed in one year, out of which 264 were given to girls aged 13 to 15 years old.[32]

The trial in Manchester was hailed a great success because it was claimed that 700 unwanted pregnancies were prevented in less than six months of the scheme starting.[33] A year later Levonelle-2 had been introduced into schools.[34]

What are the implications of giving Levonelle-2 to girls under the age of 16 years old?

The short answer is that no-one can be sure of all the implications. There are at least three vital questions that illustrate this:

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[29] 'Teenage Pregnancy, A White Paper (Cm 4342)', The Social Exclusion Unit, June 1999, page 4
[30] *The Times*, 8 January 2000, *Daily Mail*, 20 September 2001
[31] 'Emergency contraception trial in Manchester pharmacies', *The Pharmaceutical Journal*, 264 (7078), 2000, page 44
[32] *Daily Mail*, 20 September 2001
[33] *The Independent on Sunday*, 10 December 2000
[34] *Daily Mail*, 8 January 2001

- How many large clinical trials have there been in girls under 16 years old?
  None[35]

- What are the long-term physical and social effects of giving girls under 16 years old free access to Levonelle-2?
  Unknown

- What is the total number of doses of Levonelle-2 prescribed in England to girls under 16 years old by school nurses?
  Unknown[36]

However, there are consequences of taking Levonelle-2 that we do know about.

Firstly, emergency contraception does not protect against sexually transmitted diseases. According to the Government, in a single act of unprotected sex with an infected partner,[37]teenage women have a –

1% chance of acquiring HIV;
30% risk of getting genital herpes; and
50% chance of contracting gonorrhoea.

Secondly, emergency contraception does not protect against cancer. Susan Blunt, a consultant obstetrician and gynaecologist has written, "If a girl has sexual intercourse before she is 16, when the cervix is rapidly growing and dividing, she significantly increases her cancer risk. The more partners, the greater the risk."[38]

Thirdly, emergency contraception does not protect against the emotional burden of early sexual activity.

Finally, emergency contraception use in schools undermines parental authority. Government guidelines recommend that parents should be consulted if a school is considering setting up a contraception service, however they may not be.[39] These same parents do not have to be informed if their daughter has used the service because of patient/nurse confidentiality.

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[35] House of Commons, Hansard, 23 January 2002, col. 964W
[36] House of Commons, Hansard, 7 November 2002, col. 508W
[37] 'Teenage Pregnancy, A White Paper', *Op cit*, page 6
[38] Susan Blunt MD, MRCOG writing in Reader's Digest, see www.readersdigest.co.uk/magazine/blunt.htm as at 7 May 2003
[39] 'SRE & Parents', *DfES 0706/2001*

The Government and the morning-after pill

On the 7th May 2003 in the House of Lords, the Government was asked two questions about the morning after pill. The first question was whether the Government agreed that the recent introduction of the morning after pill into schools at a time of rising teenage pregnancies showed the ineffectiveness of much conventional sex education. The second asked whether the Government was willing to study the success of abstinence education in the United States and discuss it with education authorities here.[40]

To the first question, about the ineffectiveness of conventional sex education the Government minister said,
"…most contraceptive advice for young people is offered by general practitioners and family planning services. If a school's governing body decides to provide a school-based health service, it can offer contraceptive advice as part of a holistic service...through...a health service on site, so that we do not have the situation of school nurses prescribing contraceptives."

In reply to the question about abstinence education, the Government minister said,
"As regards the evidence from the United States, my information is that no abstinence-only programmes have showed strong evidence that they either delay sex or reduce teenage pregnancies."[41]

Yet this is not the view of many people in the USA.

In 1996, the U.S. Congress established an abstinence education programme.[42] Congress pledged $50 million annually for the guaranteed five-year programme (1998 – 2002). Congress also designated a "Bonus to reward decrease in Illegitimacy" in the amount of $20 million, to be awarded to each of the top five states who were able to demonstrate that they have achieved a net decrease in out of wedlock births.

In September 2002 the National Center for Health Statistics reported on the rate of teenage pregnancies for the 10-year period 1991-2001 in the USA.[43] This shows a clear fall in all age ranges.

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[40] House of Lords Hansard, 7 May 2003 col. 1091
[41] *Loc cit*
[42] 'Abstinence Education in the States, Implementation of the 1996 Abstinence Education Law', Association of Maternal and Child Health Programs, see www.amchp1.org/policy/docs/brief-abstinenceed.htm as at 15 May 2003
[43] 'Teen Birth Rate', *Child Trends*, September 2002

	Teenage birth rates		
Age	**1960**	**1991**	**2001**
Under 15	6, 780	12, 014	7, 791
15 – 17	182, 408	188, 226	145, 646
18 – 19	404, 558	331, 351	301, 721

National Center for Health Statistics, USA[44]

Summary

Levonelle-2 is not a harmless drug. It contains a high does of a female hormone and it can cause life-threatening side effects such as ectopic pregnancies.

Levonelle-2 may work after conception has taken place. It is because of its action to prevent implantation after conception has taken place that ethically Levonelle-2 is a drug that causes abortions, although this is not the current legal understanding.

There is a growing use of Levonelle-2 in schools because of Government pressure, for example in Oxfordshire and Nottingham and, most recently, in West Norfolk and Bradford.[45] The Government is aiming to reduce the number of teenage pregnancies, which are the highest in Western Europe, and sees the morning after pill as part of that solution.

Levonelle-2 usage in schools can undermine parental authority by denying parents information about whether their daughter has been given the morning after pill.

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[44] *Ibid*, page 1
[45] *Daily Mail*, 8 January 2001; *Nottingham Evening Post*, 1 April 2003; *Evening Standard*, 23 May 2003; *This is Bradford*, Bingley, Shipley, Spen Valley, 15 May 2003