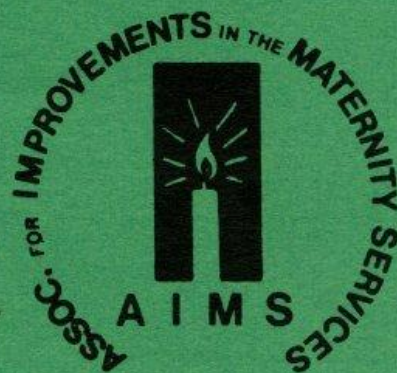


**A Commentary on the Report of the  
Royal College of Obstetricians  
& Gynaecologists  
Working Party on Routine  
Ultrasound Examination  
in Pregnancy**



**Price £1.00**

## INTRODUCTION

AIMS first became aware of the questions being asked about the long-term safety of ultrasound following receipt of a series of medical papers from the USA. In October 1981 AIMS and the Birth Centre wrote to the Minister of Health (Dr Gerard Vaughan) expressing concern about the “widespread use of technological innovation ahead of proper scientific evaluation” and asked the Minister to investigate. He replied that:

“In 1976 the MRC's Cell Biology and Disorders Board considered the possibility of a trial to assess the potential benefits and hazards of the use of ultrasound in pregnancy. Since there was no reason to believe that the use of such techniques was likely to lead to any increase in the incidence of gross anomalies in the offspring, a trial would have been unlikely to have done more than to show whether these techniques were responsible for any subtle anomalies that might appear. However such anomalies are extremely difficult to assess, and it would have been virtually impossible to distinguish between any which might have been caused by ultrasound and those due to other environmental factors. In the light of these Council decisions, the Board concluded that a trial would not lead to any firm scientific conclusions.

“In the four years since then, the use of ultrasonic techniques have become so widespread that a controlled trial along the lines originally proposed would no longer be ethically possible.”

(The MRC (Medical Research Council) apparently did not consider the ethics of the medical profession introducing and widely using an un-evaluated procedure ahead of controlled trials.)

During 1983 the RCOG set up their Working Party to investigate the use of ultrasound. The Report was due to be published in February 1984.

In October 1983 Doris Haire, President of the American Foundation for Maternal and Child Health, at an obstetric conference in Dublin showed a CBS News film about ultrasound safety. The film was then presented to the National Childbirth Trust to circulate in Britain. AIMS borrowed the film immediately and showed it at an AIMS conference in Stirling; extracts of the film were later shown on the ITV programme Afternoon Plus; the national press still ignored the issues raised.

It was not until the 10th May 1984 that the public became aware of the ultrasound controversy when the National Childbirth Trust organised a private meeting with interested members of the medical profession to discuss the issues. On the same day AIMS issued a Press Release referring to a letter to the Minister calling for tighter restrictions on ultrasound use. ITN News brought the issue to public attention that afternoon and evening.

On the 16th May Michael Meadowcroft (Liberal MP) (following approaches from Healthrights (CRP) London) asked a Parliamentary Question about the routine use of ultrasound. He received the following reply from Mr John Patten: “. . .as the use of ultrasound is a matter for clinical judgement, such tests should not therefore be performed as a routine” (later published in Hansard 24.5.84).

The Royal College met around the 17th May to consider the Working Party Report which was due to be published shortly.

In August 1984 the Lancet published a letter from WHO stating that “Research has demonstrated its (ultrasound’s) efficacy for certain complications of pregnancy but the published material does not justify the routine use of ultrasound in pregnant women .... There is also insufficient information with regard to the safety of ultrasound use during pregnancy.”

The RCOG Report was due to be published shortly.

AIMS again wrote to the Minister drawing his attention to the WHO statement and also to the Stark study which revealed “a significant increase in the numbers of children suffering from dyslexia following ultrasound exposure” and asking him to issue a directive which would severely restrict the use of routine ultrasound examinations of pregnant women.

The Minister replied in September 1984 stating that “The issue of a 'directive' designed to restrict exercise of that (clinical) judgement would not be appropriate. He also pointed out that he had asked the MRC to consider convening a meeting of experts to consider available evidence on the benefits and possible risks of obstetric ultrasound.

AIMS replied immediately pointing out that Mersey Regional Health Authority had issued a statement requiring their District Health Authorities to

review their ultrasound provision “with a view to introducing routine ultrasound screening during pregnancy where this is not already a routine procedure”. As this was a policy decision it could not involve clinical judgement.

The Minister replied stating that “Given the publicity there has been recently about the possible risks of ultrasound scanning we would not expect any Health Authority to be advocating screening during pregnancy for all mothers as a routine procedure. Officials are taking up this point with officers of the Mersey RHA.”

AIMS released this statement to the Daily Mail and they gave it national publicity (although no national newspaper picked up this statement when the Minister first made it in May - Hansard 24.5.84).

The RCOG Report was still awaited and finally published in December 1984.

## COMMENTARY

The following is our commentary on the RCOG Working Party Report:

*“Obstetricians began to introduce routine scanning of all pregnant women and there was no doubt that parental acceptance of this is particular form of technology was high.”*

(Pages 2 and 3)

### Comment

Parental acceptance of ultrasound is high because. parents are told by the medical profession that it is absolutely safe. Were they to understand that the long-term effects on their children (and possibly themselves) are unknown such enthusiastic acceptance would be considerably reduced.

“Some 100 million people throughout the world are walking around having had scans before they were born, and there has never been a shred of evidence that it does harm” (Professor Stuart Campbell as quoted in The Sunday Times, 10 June 1984).

Unfortunately, the lack of scientific credibility demonstrated by that statement is lost on the general public.

*“It is unknown at the present time whether spatial peak temporal average (SPTA) intensities are of more significance than spatial peak temporal peak (SPTP) in terms of biological effects ,... “*

(Page 7 line 10)

*“We are surprised that few manufacturers could or were prepared to quote output values for their equipment .... “*

(Page 7 line 19)

*“We feel that it should become a legal requirement for manufacturers of diagnostic ultrasound equipment marketed in the UK to publish maximum intensity values according to this standard method. “*

(Page 7 line 27)

## **Comment**

The above statements make a nonsense of the RCOG’s criticism of the animal and in-vitro studies viz. that they are conducted at far higher levels than the diagnostic levels used in this country. As the manufacturers are not willing to divulge what these levels are, and as it is known that ultrasound machinery sometimes peaks at far higher levels than the expected diagnostic levels, the RCOG is not in a position to claim that women are only exposed to diagnostic levels of ultrasound.

*“The high number of radiographers working alone in antenatal scanning is a cause for concern for we feel that a doctor (obstetrician or radiologist) should personally undertake a regular weekly scanning session if proper supervision and support are to be given to non-medical personnel. “*

(Page 8 line 22)

## **Comment**

The RCOG claims that ultrasound can detect a considerable number of anomalies early in pregnancy. Most of these claims are based on the results of very specialised units which have highly trained personnel. The same cannot be said for the majority of ultrasound departments in the country.

Their own report states: “The principal weakness of ultrasound is that its efficiency is very dependent on the skill and experience of the operator and the quality of equipment being used. Despite the good results reported by some experienced referral centres, few hospitals in the United Kingdom can provide an efficient fetal anomaly screening service” (page 37).

Until every ultrasound department produces figures showing the numbers of women screened and the results over a yearly period the RCOG’s claims can only be considered to be fond hopes.

*“Regional Health Authorities should give greater priority to requests from obstetric and gynaecological divisions with a consultant who has a special interest in obstetric ultrasound. “*

(Pages 8 and 9)

## **Comment**

Until such time as the RCOG can demonstrate that the provision of such facilities is cost effective and beneficial to the majority of women and babies no such priority should be given.

*“A routine scan between 16 and 18 weeks would appear to have much to commend it. . \_ (4) a reduction in the number of inappropriate inductions of labour for postmaturity “*

(Page 10 line 5)

## **Comment**

Would the working party also expect to see a reduction in the number of inappropriate retardations of labour in those women wrongly identified as pre-term by ultrasound scans?

*“Various studies have indicated that between 5 and 75% of mothers with 'certain dates' are more than two weeks in error when gestational age is calculated from those dates.”*

(Page 11 line 9)

## **Comment**

As the RCOG has failed to indicate throughout the text precisely which studies they are using for reference, such statements are (without the appropriate reference) difficult to comment upon. Are there, however, any studies which show that the outcome of pregnancy is adversely affected by a mother being two weeks in error with her dates?

*“There is a serious lack of prospective studies to provide evidence that routine ultrasound scanning as opposed to selective scanning on clinical indication reduces perinatal mortality and handicap or reduces maternal morbidity “*

(Page 11 line 40)

### **Comment**

This lack of prospective studies has been of great concern to AIMS for a number of years - see AIMS letter to Gerald Vaughan 16th October 1981. It is precisely for these reasons that routine ultrasound scanning should not be used until there is firm evidence of its value and evidence of long-term safety.

*“We are to some extent in a similar position to the controversy that surrounded routine electronic fetal heart monitoring (EFM) in labour. Many obstetricians believed that routine EFM would detect fetal hypoxia earlier and more reliably than intermittent auscultation in the group of mothers at low risk and that such a policy would save lives and reduce infant handicap.”*

(Pages 11 and 12)

### **Comment**

The study at the National Maternity Hospital in Dublin made the following conclusion: “These results suggest that the frequency of neonatal convulsions is reduced by 56% when continuous fetal heart rate monitoring and fetal acid base assessment is used instead of intermittent auscultation with fetal acid base assessment. However, this estimate is compatible with a real reduction of as little as 10% or as great as 78% .... Looking at our results in another way, we estimate that to prevent one case of neonatal convulsions it is necessary to monitor 433 fetuses electronically, but that this figure may, in truth be as low as 240 or as high as 2,167 fetuses monitored per case of convulsions prevented”.

The study also noted that there was a very slight increase in the caesarean section rate (in a hospital that is noted for a very low caesarean section rate anyway), but that the continuous fetal heart rate monitoring group were significantly more likely to be delivered by forceps, and although there were fewer neonatal deaths following convulsions among those allocated to electronic monitoring there were more deaths ascribed to trauma in this group. It appears that benefits is a matter of interpretation and perhaps the mothers offered routine fetal monitoring should be aware of the increased risk of a forceps delivery.

The RCOG does not appear to have learnt anything from its experience with electronic fetal monitoring which is now routinely used without evidence that it benefits the majority, although it can jeopardise the prospect of them having a normal labour and delivery. Early detection of 'at risk' fetuses by routine scanning does not entail improved care for such pregnancies (e.g. multiple births, growth retarded babies). The only change seems to be a clerical one in that detection alters the mothers' risk category, but preventive or ameliorative measures are not employed, only extra vigilance to watch the deterioration of the baby to such a point that it is decided that it will be safer out of the womb, which is 'falling' to support it, than in. 2-3% of babies are growth retarded, about 1% are multiples; evidence indicates that routine scanning does not improve the outcome for these pregnancies compared to scanning for specific indications. Evidence on reducing mortality and morbidity is contradictory, the majority indicating that routine scanning does not produce a reduction.

*“Studies on rats demonstrate that ultrasound can cause fetal abnormalities and growth retardation depending on the stage of development and insonations, but as we discuss in Appendix II, expert opinion attributes these effects to ultrasound heating which does not occur with diagnostic ultrasound. “*

(Page 13 line 13)

## **Comment**

On Page 7 the report states: “We are surprised that few manufacturers could or were prepared to quote output values for their equipment”. In which case how does the RCOG know that the equipment does not exceed the range of diagnostic levels?



*“Although cavitation has been demonstrated in mammalian tissue, this only occurs by subjecting the tissue to high intensity continuous wave ultrasound hundreds of times greater than is used in clinical practice.”*

(Page 13 line 18)

## Comment

It is of considerable concern that the RCOG is not prepared to accept that indications of anomalies in animals should be taken as an indication of possible risk to people. “After animal tests have been accepted the next major hurdle is the clinical trial. There is no substitute for using the drug on man, for no matter how rigorous the animal test procedures, some effects will slip through. Practolol passed all the required animal tests; and with thalidomide it was found that the polyneuritis it induced is unique to man, and *some effort was necessary to reproduce its foetus-deforming effect in laboratory animals*” (our emphasis). Extract from Cured to Death by Arabella Melville and Colin Johnson.

*“The majority of in-vitro studies have been negative but Dr Liebeskind and her group. . . have described effects including unscheduled DNA synthesis, sister chromatid exchange in human lymphocytes and morphological changes in the surface membrane of partially transformed mouse cells, the subsequent motility changes being detectable several generations later.... we believe that due to problems in experimental design and the failure of other reputable groups of workers to substantiate these effects, caution should be exercised in interpreting the results from the Albert Einstein Group...”*

(Page 13 line 30)

## Comment

Ehlinger et al 1981, insonated freshly delivered placental tissue that had been heparinized and in which segments of fetal blood vessels had been ligated. Samples of fetal blood obtained from segments that had been insonated were compared with unexposed samples. A significantly higher number of sister chromatid exchanges was seen in the exposed cells. Although the implications are not fully established, the group noted that a variety of known chemical carcinogens increase the incidence of such changes.

Haupt et al obtained similar results to Liebeskind's 1979 work.

*"In spite of continual vigilance over the past 20 years no substantial evidence has been produced to suggest that diagnostic ultrasound may be harmful. "*

(Page 14 line 22)

## Comment

This statement is on a par with those made in the 13th century by those who believed that the world was flat. They were very careful in their observations and furthermore they could confidently call upon thousands of very observant people to support them! There is no evidence that there has been 20 years of continual vigilance, otherwise the RCOG would have 20 years' statistical data which would demonstrate whether or not there were any long-term effects of ultrasound. The studies have yet to be done.

*"In Figures I and II (Appendix II) we plot out estimation of the increase in the usage of antenatal ultrasound in England over the past 70 years to the present level of 78% and have compared this with the national incidence of low birth weight and new cases of childhood cancers (including leukaemia) as reported by OPCS. "*

(Page 14 line 30)

## Comment

The RCOG justifies the increased use of ultrasound by citing the lack of increase in cancer and low birthweight babies while ignoring other potential effects. "I remember a study involving chickens. It was a carcinogenesis study - a study to determine whether or not the drug caused cancer. The report to the FDA said the test drug caused cancer no more often than the placebo, or a sugar pill - and in fact that was true. What they failed to tell us was that half the chickens died of heart failure."(Quote from the physician, formerly employed by the US Food and Drug Administration interviewed on *Panorama*, BBC-TV 17.1.83). It appears that the RCOG suffers from the same problem.

*"...we find no study in the entire body of biomedical ultrasound which clearly demonstrates that there is any effect on the mammalian fetus from pulsed echo ultrasound*

*of diagnostic intensities.”*

(Page 15 line 23)

## **Comment**

As the studies have not been done then they are hardly likely to find evidence. It is rather like looking for an elephant at the bottom of the Indian Ocean, having failed to find one it is then confidently stated that elephants do not exist!

*“A concern frequently expressed is that while ultrasound is apparently safe at the present time how can we be sure that there may not be some latent mutagenic effect which will become manifest when the child grows to adulthood or perhaps in a future generation .... the overwhelming mass of evidence from in-vitro and animal studies indicates that diagnostic pulsed ultrasound used at present intensities or indeed intensities well above the diagnostic range has no mutagenic effect (Appendix II). Thus we do not anticipate that biological effects will appear in future generations. “*

(Page 15 and 16)

## **Comment**

Those who are concerned about the possible long-term effects of ultrasound believe that if there are detrimental effects they will be subtle. As the RCOG has made no attempt to monitor the long-term effects its anticipation is seriously lacking in evidence.

*“There is a substantial body of literature which indicates that ultrasound is diagnostically helpful in many clinical situations ....  
2. Vomiting in early pregnancy: . . .”*

(Page 17 line 1)

## **Comment**

Many women vomit in early pregnancy. Suggest that this be amended to “Excessive vomiting in early pregnancy”. Otherwise at a stroke the RCOG will have justified the use of ultrasound screening on almost every woman!

*“There is a substantial body of literature which indicates that*

*ultrasound is diagnostically helpful in many clinical situations ....*

*3. Estimation of gestational age when mothers present with unreliable menstrual dates .... “*

(Page 17 line 1)

## **Comment**

This justification for the use of routine ultrasound raises a number of questions: 1. Who determines that the mother's opinions of her dates are unreliable, bearing in mind that many obstetricians believe that all mothers' opinions on such matters are unreliable and they rarely ask the mothers when they conceived? 2. What evidence is there that 'unreliable' dates are detrimental to pregnancy outcomes?

It is also noted that the RCOG makes no mention anywhere in its report of Hughey's study (Routine Ultrasound for Detection and Management of the Small-for-Gestational-Age Fetus - Obs. & Gynae. Vol 64 No 1 July 1984) which showed that by routine scanning the detection rate of small for dates babies was more than doubled. However, a high rate of false positives were found. Unfortunately, he could demonstrate no significant differences between the routinely scanned and selectively scanned groups in the areas of: stillbirths, neonatal deaths, perinatal mortality, low 1 min Apgar scores, or 5 min Apgar scores, caesarean section rates, mean gestational age at birth, or weight. This occurred despite aggressive use of maternal bedrest, correction of risk factors, serial scans, non-stress testing and early delivery when indicated.

*“8. Regional Health Authorities should give greater priority*

Disagree. There has to be evidence that ultrasound works and also that it is cost effective before any requests for ultrasound equipment are approved.

At the moment routine ultrasound scanning is costing the NHS a minimum of £4,694,481. Bearing in mind that most women receive two scans (and some undergo many more) it would not be unreasonable to double that figure. One would also need to add to it the costs of purchasing, updating and repairing the machines in current use.

*“9. There should be continuing vigilance in terms of monitoring .... “*

Agreed. There is, however, no evidence that there has been any vigilance in the past; nevertheless, the establishment of properly designed case control studies to establish the safety or risk of ultrasound use is to be welcomed.

*“10. At present there are no beam intensity standards ....”*

Agreed.

*“The abnormalities detected included five anencephalics, seven spina bifidas, four cases of hydrocephaly, one encephalocoele, three fetuses with imphalocoele, three with renal abnormalities, four with tumours, one with a cystic hygroma and one with duodenal atresia. Six congenital abnormalities were missed, i.e. one microcephalic, one renal agenesis, one sacral agenesis and three congenital heart defects. Ultrasound was shown in the study to have a 100% sensitivity in diagnosing craniospinal defects but unfortunately one normal fetus was terminated following a false positive diagnosis of hydrocephaly. “*

(Page 36 line 22)

## **Comment**

The report does not state whether or not all the babies with these conditions were aborted, although one assumes that they were. If they were aborted how many of them would have died anyway during the pregnancy or at birth? What was the effect on the mothers of these abortions? Would that have been better or worse than leaving the baby alone? Of those who were missed the report does not state whether or not they survived, nor does it mention the quality of their lives if they did. The healthy fetus who was aborted shows how even in a very advanced ultrasound screening programme errors occur. How great is the increase in errors in those departments where the staff are less trained and are using less up-to-date equipment?

The report goes on to list the advantages of ultrasound; it does not list the disadvantages.

*“We recognise that there are emotional and other more practical health benefits to mothers from seeing their baby on the screen (Appendix 17) but believe that this bonding pro-*

*cess should always be part of a skilled diagnostic ultrasound examination.”*

(Page 19 line 30)

## **Comment**

The maternal fetal bonding idea is a recurrent theme throughout the report without any conclusive basis. The report also introduces the idea, without any study to substantiate it, that it could increase paternal fetal bonding (page 10). As far as we know there have been four studies concerned with the emotional aspects of ultrasound use (other than the only study quoted in the report i.e. the study by Campbell) they are as follows:

L S Milne & J Rich, “Cognitive and Affective Aspects of the responses of pregnant women to Sonography”, *Maternal Child Nursing Journal* 10, 1, 5-39, 1981 (study of 20 women - mixed responses: 55% worried that baby might be harmed by ultrasound - and ultrasound did NOT decrease anxiety re. baby's condition).

A E Reading & D N Cox, “Effects of ultrasound examination on maternal anxiety levels”, (*J. Belair Med.* 5,2, 237-247, 1982). (129 women - showed no effect of ultrasound on anxiety.)

C L Kohn, A Nelson, S Weiner “Gravidas' responses to realtime ultrasound fetal image”, *JOGN Nursing*, March/April 1980, 77-80. (100 women - showed more attachment to fetus after ultrasound but some of these women then worried more about the outcome of the pregnancy.)

M Gavel & M Franc, “Reactions des femmes a l'echographie obstetricale” *J Gyn. Obst. Beol. Repr.* 9, 347-54, 1980. (54 women - relief and pleasure and fears and anxiety expressed during ultrasound examination).

Hardly convincing evidence that ultrasound increases or aids the bonding process, and it is noted that these studies were not mentioned in this report.

### *“Chapter 9 Recommendations*

*1. -The present evidence for the safety of ultrasound based on over 20 years of experience and research is sufficiently convincing for us not to recommend a change in the common practice of routine ultrasound examination between 16- 18 weeks of pregnancy. “*

## Comment

The RCOG has failed to present any evidence of long-term safety and the research is far from convincing. The Lancet published a letter from the World Health Organisation of the 11th August 1984, the following is an extract:

“There is also insufficient information with regard to the safety of ultrasound use during pregnancy. There is, as yet, no comprehensive multi-disciplinary assessment of ultrasound use during pregnancy including: clinical efficacy, psycho-social effects, ethical considerations, legal implications, cost benefit and safety. This lack of information makes decision making and priority with regard to ultrasound use during pregnancy difficult.

A relevant document which provides guidance and policy in this matter is the US Consensus statement “Diagnostic Ultrasound Imaging in Pregnancy” published by the National Institute of Health in 1984. The WHO organisation can, in principle, support this statement including their views that: the data on clinical efficacy and safety do not allow a recommendation for routine screening at this time, there is a need for multi-disciplinary randomised controlled trials for an adequate assessment.”

Note: Professor Campbell has consistently stated that the letter was only the opinion of one person in WHO. The following is the text of a letter written to Professor Campbell by Dr Marsden G Wagner the Regional Officer for Maternal and Child Health at WHO Copenhagen.

“You are well aware of the fact that it is quite easy to sometimes be misquoted. It is for this reason that I am writing you at the present time. I was recently informed that you had stated to colleagues that the letter which we wrote to Jens Bang in Copenhagen and which was later published in part in The Lancet was nothing more than the opinion of one person. Indeed, this is simply not the case and it is for this reason that I am writing to you now. If you were misquoted and never said such a thing, then I apologise. If on the other hand you have been so misinformed, please let me correct you. The letter to Jens Bang was, in fact, signed by our Director and represented the consensus of all the relevant staff people in our office on this subject. It was for this reason that we requested that it be published in The Lancet and it can certainly be taken as a statement from the European Regional Office of the

World Health Organisation on the issue of routine ultrasound scanning during pregnancy”.

*“Chapter 9 Recommendations  
3. Standards in the accuracy...”*

Agreed.

*“4. There should be a Diploma of Obstetric Ultrasound ...”*

Agreed

*“5. Ultrasound equipment should be positioned for the convenience ... “*

Agreed, but that its use should be strictly limited to those mothers who have clear indications of potential problems, and should not be used on a routine basis.

*“6. The antenatal scanning department should be ...”*

Agreed.

*“7. Commercial exploitation of antenatal scanning ...”*

Agreed.

*“In countries with socialised medicine where a high throughput of patients is achieved in each scanning session, the cost of an ultrasound scan is low. Person and Kullander (1983) estimated that the cost of an antenatal scan in Sweden was \$ 13 and Campbell (1984) calculated that the cost in the UK was £11.”*

(Page 41 line 23)

## **Comment**

The report does not reveal whether or not Campbell took into account the cost of purchasing the machine and the increasing pressures to buy bigger, newer and more expensive machines (they appear to have a very short life). No mention is made in the report of the costs of purchasing these machines. Using the report's own figures 426, 771 women had routine ultrasound scans in 1983. If these women received just one scan the cost to the NHS will be



£4,694,481, as most women receive two scans (and some have considerably more) the costs must exceed £9,388, 962 a year with little evidence that the procedure is beneficial to the majority or is cost effective.

*“In terms of clinical studies, all surveys, whether they used controls (Scheidt et al 7978; Stark et al 7984) or general populations statistics for comparison (Hellman et al 7970) have shown no association between the antenatal use of ultrasound and the incidence of congenital abnormalities. “*

(Page 56 line 41)

## **Comment**

It is interesting that the Report fails to mention that the text of Stark's study while stating that the results should not be over-interpreted does state that they found a significant increase in the numbers of children suffering from dyslexia following exposure to ultrasound in utero.

The absence of gross defects is no reason to ignore the possibility of more subtle effects. In reviewing the two analyses of the Denver study by Stark et al and Moore, Barrick and Hamilton, the NIH Concensus Development Conference draft report stated: “After careful review of both analyses, it is our conclusion that a significant association of ultrasound with low birth weight was present in the study. However... the association cannot be assumed to be causal.” (page 125) This is directly in conflict with the RCOG's assertion that there is no evidence “that ultrasound examination causes low birth weight and in particular intrauterine growth retardation. (Page 57)

## **CONCLUSION**

Whilst AIMS is able to support many of the RCOG's proposals it is, nevertheless disappointed that the Report appears to be an exercise in allaying public fears and pulling the wool over the eyes of those who are not well informed about this subject.

The object of the Report was to investigate the advantages and disadvantages of ultrasound and make recommendations. It was expected that the Report would be scientific but the statements within it are often far from scientific: “A routine scan between 16 and 18 weeks would appear to

have much to commend it.” One requires evidence, not appearances! “In spite of continual vigilance over the last 20 years ...” It is not vigilance, but scientific evaluation, that is required. “The present evidence for the safety of ultrasound based on over 20 years experience and research is sufficiently convincing ... “Anyone convinced of the long term safety by the evidence presented in this Report is capable of being convinced of anything!

The present public debate on the issue of long-term safety of ultrasound has come about as a direct result of continual pressure from AIMS. After 20 years vigilance the Royal College is now recommending that there should be a Diploma of Ultrasound. After 20 years continuous vigilance the Royal College is “surprised that few manufacturers could or were prepared to quote output values for their equipment.”

The World Health Organisation, the Danish Health Ministry and the American Food and Drug Administration have all stated that in view of the lack of information regarding the safety of ultrasound in pregnancy routine ultrasound examinations should not be carried out. It is extremely worrying that the RCOG is unable to demonstrate similarly cautious attitudes.

This Association does believe that ultrasound examination has considerable value in specific instances and is able to special many of the Report’s recommendations. We do, however, believe that use of ultrasound should be strictly limited to those mothers who have clear indications of potential problems for whom the information cannot be obtained by any other means: and while there is insufficient information with regard to the safety of ultrasound use during pregnancy it is irresponsible to us it on a routine basis.

Commentary compiled by:

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## **SAMPLE SURVEY OF SCANNING IN PREGNANCY**

All mothers booked and delivered at HMH\* during July 1984 = 273 total deliveries.

<b>No of Scans</b>	<b>No of Patients</b>	<b>Ratio</b>
1	130	47.6%
2	82	30.0%
3	36	13.2%
4	11	4.0%
5	6	2.2%
6	3	1.1%
7	2	0.7%
8	1	0.37%
9	2	0.7%

Average number of scans per booked patient = 1.96

\*HMH = Hull Maternity Hospital