

Audio 1:

Fiona Bruce: Good afternoon, Professor Glover, and thank you very much for coming to give evidence to our enquiry on fetal development. So today is our second session, and it is the 20th of March, and we're delighted that you have come. At the heart of all our questions, there is an attempt to evaluate whether or not there is a requirement for improvement in the care of mothers requesting an abortion, and of their unborn child, particularly in regard to possible or necessary suffering of that unborn child or fetus. Now I know that you're an expert in the area, but it would be helpful if you could start by telling us something about your background and experience, and the expertise you're bringing to this enquiry. And of course, do clarify and reword any question if you think that we haven't quite expressed it correctly. Before we go any further though, I will just introduce the panel here. I'm Fiona Bruce, member of Parliament, and I'm currently Chair of the Parliamentary Pro-Life Group. And I know that you know my colleague, Lord Alton, probably from more than many years... other colleagues, I regret to say, as far as the House of Commons are concerned, are detained in the chamber, so I apologize they're not with us, in particular my colleague Maria Caulfield MP, who is actually the chair of this enquiry, so I'm very much your second best, but please accept me if you will on that basis, and perhaps start out by giving an outline of your background experience and your expertise.

Prof. Glover: Well I'm professor Vivette Glover, professor of perinatal psychobiology at Imperial College London. I work, started getting interested in this area in about the early 90s and my first research in this area was with Prof Nick Fitz, who was professor of fetal medicine at Imperial at the time, and his, he did a lot of fetal surgery, blood transfusions and so on; and the mothers he was working with asked "does my baby in the womb feel pain?" And that started us off thinking about it, he then asked me, you know, does the fetus feel pain and how could we tell. So we then did some research together, where we measured fetal stress responses. We compared the reaction of the fetuses to it having a needle put in through the tummy, which we would expect to cause stress, or through the umbilical vein which wouldn't because it's not innervated. And we found that there was a big stress response from about 18 weeks. But stress doesn't indicate pain. So it may just think, and we thought at the time, how one would evaluate whether the fetus felt pain, so I can tell you a bit about that. In more recent years, I mean I really haven't done anything new in that area for a long time. My research in the last 15/20 years has really all been about long term effects of fetal development and fetal influence and fetal programming, and we've done a lot of research showing that if the mother is stressed while she's pregnant, or anxious or depressed, this can have a long-term effect and increased risk of various problems with the child, and we're trying to understand the biological mechanisms underlying that. So my recent research, and I think there's been a lot of new research and evidence, and I don't know if this group is interested in hearing about that, it sounded a bit in your email that you were saying you were, but it's not relevant to abortion, it's relevant to care of pregnant women, that there should be much better emotional care of pregnant women because there could be long term effects from the fetal development on the child. And I feel that's really where my main field of expertise is these days.

Fiona Bruce: Thank you. Lord Alton?

Lord Alton: Well also it's wonderful to see you here today, so thank you for that. 22 year ago, eight? In 96, when you gave evidence to an enquiry that was conducted here in the house of commons. At the time, you said I think it's possible -- talking about the development of the unborn child at 12 to 25 weeks -- you said I think it's possible that there might be consciousness associated, just thalamic activity, without going through to the cortex

Prof. Glover: Did I say thalamic activity? ...the fetus is different...in adults, I think conscious activity is due to electrical activities in the cortex. The fetus is different, because it has a region called the "sub-plate zone" that the adult doesn't have, and there's a lot of uncertainty... I think, I mean my main view is that, when there's innovation from pain fibres through to the cortex then it really is highly likely that the fetus feels pain, and that comes from 26 weeks. So the third trimester, I think it really is highly likely that the fetus will feel pain and pre-term babies at that age have every indication that they are experiencing things. The area of uncertainty is earlier, from 10-26 weeks from my view there is a lot of uncertainty, and there's a lot of disagreement in my experience in this area

Lord Alton: Would your view then be that during that period of uncertainty, you should operate using the precautionary principle that if you don't know then you should act accordingly?

Prof. Glover: In the interest of the fetus yes, but I'd also want to take into account the interest of the mother. Despite having done a lot of work and thinking that one ought to be much more aware of fetal experience and fetal pain, I mean I am pro-choice myself, but I try and keep the science very much distinct from that. So I think one has to balance the interest of the two. From 26 weeks, I would certainly think that one has to. But in that area of uncertainty, it's very difficult to say, and I'm really genuinely uncertain. And I'd say, if you were to read the literature on the subject, a lot of people don't really want to consider fetal pain before 24/26 weeks, well 26 weeks I think is the...I would consider the possibility, I mean I talked earlier on about it being like the dimmer switch, that it might come on a little bit, and sort of...transient experiences. But It's because of this uncertainty, there isn't the innovation of the cortex but there is the innovation of the subplate, so...

Lord Alton: So really you're saying, we don't, the science really hasn't changed much, the practice hasn't changed much in the 22 years of conversation

Prof. Glover: I don't think relevant to this. There's been a lot of evidence about long-term effects, there's been beautiful research on 4D imaging, so there's much better pictures of the fetus, fetal expressions, so you can see smiles and hands and mouth, and people say you can see the fetus of a woman who's smoking to the behavior of a non-smoker, so there's quite a lot of improved research on fetal imaging. But I don't think it's really relevant to the experience of fetal pain, which is I think the crux of what you're interested in in relation to abortion

Lord Alton: It is. The difference between awareness and pain is quite an interesting one, fetal awareness and pain, can you talk us through that a little bit?

Prof. Glover: Well awareness, consciousness, and ... to feel pain there has to be the ... the anatomical pathways have to be there. That's a necessary but not a sufficient condition. So our science couldn't see when these pathways form. But consciousness you don't really know, I mean I'm using consciousness and awareness as equivalent I think, I don't think I'm making a distinction between those two. But we don't know, I mean there's lots of unknowns in that, it's very inferential.

Lord Alton: Thank you.

Prof. Glover: Don't you think?

Lord Alton: I do. I'm quite interested to hear.....

Prof. Glover: So that's why I'm very uncertain, I mean I'm really not certain til people, I mean absolutely certain, if asked I could guess.

Fiona Bruce: Thank you for that. On the basis that there are many uncertainties, is there a point in the gestational age in which you could comfortably say fetal pain is impossible?

Prof. Glover: isn't possible?

Fiona Bruce: Isn't possible

Prof. Glover: Yeah, I would say not before 18 weeks, because the fibres haven't even joined the sub-plate zone.....I'd like to be extremely cautious but I think it's extraordinarily unlikely. When there isn't any joining up with the relevant structure of the brain it seems very unlikely. If you touch a fetus on each leg at about 12 weeks it'll jerk away

Fiona Bruce: yes

Prof. Glover: But there's no link then between the spinal cord and the brain, so it's like a knee-jerk. So I think it's extraordinarily unlikely that at that early stage it's feeling anything, because everything we know in adults suggests that to be aware, conscious, feel pain and so on you have to have, well in adults' activity, the cortex, but you certainly have to have activity in the brain, so if the nervous system and the spinal cord isn't joined up to the brain, I think it's extremely unlikely. So I think first trimester, and really up to 20 weeks, up to 18 weeks I'd say it's extremely unlikely, and then from about 18-24 weeks the possibility's greying a little bit, but then after 26 weeks I think it's very likely. And that's, you know, there's no certainty on this. Well I'm pretty certain that when there's no joining up with any of the hard parts of the brain really it's extremely unlikely, and that's why the pictures of the younger fetus screaming or jerking, certainly it can move, but I think it's, like I say, like a knee-jerk.

Fiona Bruce: Thank you. There are a number of comments made in the RCOG 2010 paper on fetal awareness, and we wondered what your opinion was on these comments. You have touched on fetal awareness

Prof. Glover: Well, I think it's over-certain. I think, I mean they say "no possibility," I mean I think that's over-certain. They say no possibility up to 26 weeks in that report don't they? Well I'm just a bit more agnostic about the whole thing. When they say the fetus is asleep or something, well no that's actually wrong. I'm slightly shocked by that. They use the evidence from sheep, for one thing. But there's...the whole concept of sleep in the fetus is a bit problematic anyway. But the fetus, the older fetus, in the third trimester, will certainly respond to stimulation of light or sound, and there's a lot of evidence for that. So I don't think it's true to say that it's maybe asleep in the final trimester

Fiona Bruce: Thank you

Prof. Glover: so I wasn't very impressed with that

Fiona Bruce: Very interesting. So could you give us your view on the different experiences of pain or sensation of an unborn child in the later stages of pregnancy compared with a child that's delivered early, 21/22 weeks, which survives

Prof. Glover: Well I mean I think...I don't see any particular reason to think...I mean...you may have more evidence on this, I don't know of any particular reason to think there is a difference between the fetus in the womb or out of the womb in terms of their ... it all depends on the anatomical connections and the physiology, and that'll be the same, so I'd have thought the evidence of an unborn, or a pre-term baby would be quite relevant to what happens in the womb

Fiona Bruce: That's very interesting, because you see there's the argument that the preterm baby's been stimulated the moment it exits the womb

Prof. Glover: Well, yeah, there's the terrific... well I mean it depends how it's born of course, and it depends on the outside stimuli, and it may be more reactive. I don't think I'm fully on top of the evidence for that actually. I mean other people may know more about that, so I'd be open to argument, or open to evidence.

Fiona Bruce: but your instinct...

Prof. Glover: As far as, based on what I know, I would put them as equivalent, but I'd be open, as I say, to new evidence.

Fiona Bruce: Thank you.

Lord Alton: Thank you Fiona. Given that we are under British law since 1919, to terminate pregnancies up to and even during birth, in the cases of disability – 90% of all Down's syndrome babies are now aborted on the grounds...there have been other examples of course...and so on. In those kinds of very late abortions, what method, do you think, would be the preferable

method to use? Is it dilation and evacuation or is it potassium chloride, what's your take on that?

Prof. Glover: Again, I'm not an obstetrician and I'm not fully expert on this, I mean I think whatever is quickest is most likely to be painless, and I think potassium is supposed to be but, I mean I don't like the idea of dismemberment without any sort of anesthetic

Lord Alton: Given what you've said, that at least certainly after 26 weeks...

Prof. Glover: After 26 weeks, I think one should consider the interest of the fetus, after 26 weeks, certainly... But there's a balance with the mother, because one should consider the interests of the mother too

Lord Alton: Of course, I mean one's got to put...

Prof. Glover: Yes I mean there's 2 patients there

Lord Alton: 2 patients. Both lives matter, so we're on the same page then. Tell me then, what happens when someone presents with a baby that's got spina bifida and there's an opportunity to remove the child from the womb in order to carry out an operation of that baby, and then to place the baby back in the womb, as has been done successfully, what happens then? I mean anesthesia is presumably used?

Prof. Glover: I'm not an expert on this, I'm not an obstetrician, and I don't feel... you'd have to ask other people about that

Fiona Bruce: Could I ask... and you could come back, David? I wanted to ask you about whether you thought current guidelines and advice to expectant mothers were effective in terms of addressing their concerns about fetal awareness and what improvements could be made if any?

Prof. Glover: Well I'm... what is said to expectant mothers on this these days, do you know?

Fiona Bruce: I don't, but I expect that our expert advisor might have a comment. What is the current advice to expectant mothers regarding fetal awareness?

Lord Alton: There is no fetal pain. Fetal pain does not exist.

Prof. Glover: Really?

Lord Alton: That is very much the official line.

Prof. Glover: Fetal pain does not exist? At any age?

Lord Alton: Absolutely. At any age. Up to birth.

Prof. Glover: Is that based on the Royal College's book?

Lord Alton: Yes. We've checked – you've checked – last month, and they replied to us this month that they are still standing on their position of 2010.

Prof. Glover: Well I don't agree with that. I don't agree with that. After 26...and I would think the literature really...after 26 weeks lots of people think it's highly likely that the fetus can feel something. A preterm baby of the same age...I mean you wouldn't tell...you wouldn't operate on preterm babies without...so I mean I'm surprised by that and I wouldn't agree with it. As I say there's this area of uncertainty up to 26 weeks, but after? In the last trimester, the fetus responds, learns, and it's equivalent to a preterm baby.

Lord Alton: We've heard that unofficially, that some consultants are giving fentanyl just before the potassium chloride, but RCOG themselves have said that fetal pain does not exist.

Prof. Glover: ...No I wouldn't agree with that, their report

Lord Alton: We don't have a really good handle on the literature that you mentioned but it would be really helpful to the enquiry I think that if you had time, to just give us a few citations.

Prof. Glover: Do you know the Leatel paper? Just, I mean an American one, Leatel

Fiona Bruce: Oh, the Lozier Institute?

Lord Alton: That's the only name I've got...

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Prof. Glover: I mean I can send you a few references.

Lord Alton: I mean that's all I'm asking for really.

Prof. Glover: Because that's an American one when they were asked and they came to a conclusion that 26 weeks was the period after which one should consider fetal pain and ...

Lord Alton: IF you could send through those references that would be really great

Prof. Glover: Yes, yeah I can send them to you

Lord Alton: I would think that, I would like to ask, is it something that you think that we should be turning our attention to in patient care of the mother and the child, is there more that we should be...

Prof. Glover: I think that's definitely so, I mean I think the current guidelines, I mean not this advice for the mothers that the fetus doesn't feel anything, but in terms of the abortion laws, I

myself wouldn't think they need changing, but in terms of care of pregnant women I think there's, that's where the evidence has changed enormously in the last 20 years, it's really, very...more and more and more. I heard a...I mean it was already know that smoking and alcohol can affect fetal development, but it's now very clear that the emotional state of the mother in pregnancy affects fetal development. That if she's in the top 15% for symptoms of anxiety and depression it doubles the risk for a whole lot of problems in the child, of ADHD, conduct disorder, learning disorder, a whole lot of different problems. So that if we could take better emotional care of pregnant women, we'd help prevent a whole lot of neurodevelopmental problems in children, and I think that's enormously important, that's actually where the focus of my research is now. I do think the evidence has changed and become much much stronger.

Lord Alton: Thank you very much.

Fiona Bruce: Thank you Professor Glover for coming to see us today, we very much appreciate it, and before you leave I'll at least introduce you to the chair of our enquiry Maria Caulfield, MP

Prof. Glover: If I can I'll just stay and listen

Fiona Bruce: Please do, please do, thank you very much for coming

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