ProLife OB|GYNS
AAPLOG American Association of Pro-life Obstetricians & Gynecologists

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AAPLOG Fact Sheet Fetal Pain

The American Association of Pro-Life Obstetricians and Gynecologists recognizes that an obstetrician/gynecologist is called to care for two patients. His Hippocratic obligation requires that he treat each of his patients with beneficence and respect. He must maximize the good for each patient he cares for, and avoid intentionally inflicting harm. Therefore, AAPLOG rejects abortion after the first trimester because the procedure unnecessarily inflicts severe pain on a pain capable living human being.

The International Association for the Study of Pain defines pain as an "unpleasant sensory and emotional experience associated with actual or potential tissue damage".[1] During a dilation and evacuation (D&E) abortion procedure, there is much tissue damage as a result of the dismemberment of the unborn human being. A D&E procedure is the most common method of abortion (95%) once the fetus has become fully formed, when the tissue cannot be completely removed solely with suction (in the beginning of the second trimester, around 14 weeks).[2] After cervical dilation, the abortionist introduces a suction catheter to remove the amniotic fluid and softer tissue such as the placenta. The size of the fetus and his calcified bones necessitate his extraction manually. The abortionist will progressively disarticulate the fetus by pulling off his legs and arms and sections of his torso, prior to crushing and removing his skull. This is a non-intact D&E, or "dismemberment abortion".[3]

Fetal pain perception begins with the presence of cutaneous sensory receptors (nociceptors), which begin to develop in the peri-oral area at 7 weeks, spread to the palms and soles by 11 weeks, to trunk and proximal limbs by 15 weeks, and are present throughout the fetus' entire body by 20 weeks.[4] As these sensory neurons develop, the unborn child begins to react to touch.[5] Early in the process, the pain system consists of a spinal reflex from a peripheral sensory neuron which detects the noxious stimuli, transmitted to a dorsal horn neuron in the spinal cord, which is then transmitted to a ventral horn motor neuron, which initiates a motor response transmitted to the muscles that causes the fetus to withdraw from the tissue damage.[6]

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[1] GF Gebhart, "Scientific Issues of Pain and Distress," Definition of Pain and Distress and Reporting Requirements for Laboratory Animals: Proceedings of the Workshop Held June 22,2000.
[2] ACOG Practice Bulletin.
[3] Live Action, "Abortion Procedure: What you need to know" available at abortionprocedures.com, last visited on August 21, 2017.
[4] KJS Anand, et al, "Pain and It's Effects in the Human Neonate and Fetus", New England Journal of Medicine 317:21 (1987) 1321-1329.
[5] LB Meyers, et al, "Fetal Endoscopic Surgery: Indications and Anesthetic Management," Best Practice and Research Clinical Anesthesiology. 18:2 (2204) 231-258.

The part of the central nervous system leading from the peripheral nerves to the brain starts developing in the dorsal horn of the spinal cord at 13 weeks. [7] Connection is made to the brain's thalamus (midbrain) between 14-20 weeks.[8] Early in the second trimester, the fetus reacts to stimuli that would be recognized as painful if applied to an adult human, in much the same ways as an adult, for example, by recoiling.[9] Fetuses can be seen reacting to intra-hepatic vein needling with vigorous body and breathing movements, increased heart rate, and increased blood flow to the brain (which does not occur during placental cord insertion needling, where there are no pain receptors).[10] Increases in levels of circulating stress hormones and endogenous opioids (which are independent from maternal levels) can also be measured.[11] Although the neurons of the cerebral cortex begin development at 8 weeks, and are complete by 20 weeks, it appears that neural connections between the thalamus and the cerebral cortex are made starting at 17 weeks, and are fully functional by 26-30 weeks. Electroencephalographic bursts (measuring cerebral activity) are noted in the cerebrum starting at 20 weeks and have a mature pattern by 30 weeks.[12]

It is well established in fetal and neonatal anesthesia literature that subjection to a painful stimulus can be associated with long-term harmful neurodevelopment effects, such as altered pain sensitivity and possibly emotional, behavioral, and learning disabilities later in life.[13] Thus, it is the standard of care to provide anesthesia for intrauterine surgery at these gestational ages, and analgesia for prematurely born neonates undergoing potentially painful procedures, even if they occur at gestational ages earlier than full thalamocortical functioning is anticipated. [14] It should be noted that extremely preterm neonates born at the edge of viability (currently around 22 weeks gestation) can be noted to have cries and facial expressions that we recognize as resulting from pain (even though they are far younger than we expect for complete thalamocortical connectivity).[15]

Opponents argue that this does not qualify as pain because the fetus cannot experience an emotional response to the pain. They believe this because they have not found histologic evidence that the neural tracts connecting the thalamus to the cerebrum are fully formed this early (they believe the tracts are not completed until 26-30 weeks), and they assume these tracts are necessary to have an emotional experience in response to pain.[16] This argument is based upon an extreme interpretation of what constitutes pain.

Contrary to the assertion that a fully functioning cerebral cortex is needed to emotionally process pain, some research indicates that only a functioning thalamus is needed to cause emotional processing of pain. It has been observed that children with hydranencephaly (absence of almost all of the cerebral

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[7] R Gupta, et al, "Fetal Surgery and Anesthetic Implications," Continuing Education in Anesthesia, Critical Care and Pain. 8:2 (2008) 71-75.

[8] SJ Lee, "Fetal Pain: A Systematic, Multidisciplinary Review of the Evidence," Journal of the American Medical Association. 294:8 (2005) 947-954.

[9] CL Lowery, "Neurodevelopmental Changes of Fetal Pain," Seminars in Perinatology. 31 (2007) 275-282.

[10] X Giannakoulopoulos, et al, "Fetal Plasma Cortisol and B-endorphin Response to Intrauterine Needling," Lancet. 344 (1994) 77-81.

[11] Gita, "Fetal Hypothalami-Pituitary-Adrenal Stress Responses to Invasive Procedures are Independent of Maternal Responses," Journal of Clinical Endocrinology and Metabolism. 86 (2001).

[12] V Glover"Fetal Pain: Implications for Research and Practice," British Journal of Obstetrics and Gynecology. 106 (1999) 881-886.

[13] KJSAnand, "Pain, Plasticity, and Premature Birth: A Prescription for Permanent Suffering?" Nature Medicine. 6 (2000) 971-973.

[14] Tadic Salihagic, "Fetal Neurophysiology According to Gestational Age," Seminars in Fetal and Neonatal Medicine. 17:5 (2012) 1-5.

[15] CL Lowery, "Neurodevelopmental Changes of Fetal Pain," Seminars in Perinatology. 31 (2007) 275-282.

cortex) exhibit all the responses to painful stimuli we expect of normal children. In fact, sometimes if the diagnosis has not been made antenatally, it may be several months before the condition is diagnosed, because initially the baby exhibits the characteristics we expect of a baby with normal cerebral function. They seem awake and alert, show responsiveness to their surroundings, express pleasure by smiling and laughing, and aversion by fussing and crying. They respond differently to the faces of those familiar to them, compared to strangers.[17] Clearly there is much that science does not understand about how the brain processes emotions.

Neurosurgical clinical data also causes us to question the assumption that the cerebral cortex is primarily responsible for pain perception, because it has been shown that ablation or stimulation of the primary somatosensory cortex (in the cerebrum) does not alter pain perception in adults, whereas thalamic ablation or stimulation does.[18] Interestingly, a 4-D ultrasound study of twin fetuses between 14 and 18 weeks gestation showed movements that appeared to be intentionally directed toward the co-twin, showing that social interaction may begin far earlier than previously thought.[19] We should also consider the possibility that pain perception in the fetus may not use the same pathways as in the human adult, just as it may not in other species, such as the octopus.[20] Many fetal structures are different from those in the adult, and may function in a different way. Some researchers feel the fetus of 18-22 weeks may experience a more severe sensation of pain than older neonates because the pain modulation system (which sends inhibitory signals to decrease the body's response to pain) has not yet developed.[21]

All the foregoing scientific evidence strongly indicates that a fetus may experience pain starting at 14 weeks (the gestational ages where D&E is often performed). There are certain individuals within the scientific academic community who dispute this conclusion, but these claims lack credibility. Opponents support their position with an oft quoted study in the Journal of the American Medical Association ("JAMA"): "Pain is an emotional and psychological experience that requires conscious recognition of noxious stimulus."[22] This study lacks credibility because author Susan Lee previously practiced as a National Abortion Rights Action League attorney, and author Eleanor Drey, M.D. was the medical director of an abortion clinic at the University of California, San Francisco ("UCSF"), thus they had a preceding bias. The intent of the study is readily apparent from the first paragraph, where the authors discuss legislative limitations on mid-trimester abortions, and they discount any concern for the fetus as they attempt to systematically dismantle all the observed fetal physiologic responses and attempt to explain how that does not actually represent pain as we know it.

Although the U.S. Supreme Court upheld a ban on intact D&E procedures, it has failed to similarly prohibit the non-intact D&E as described above. In her dissenting opinion on the "Partial Birth Abortion Ban", Justice Ginsburg recognized that "the brutality inherent in performing D&E (which the court terms "non-intact D&E") on living fetuses was equal to the brutality of partial birth abortion (ie "intact D&E"):"… the Court emphasizes that the Act does not proscribe the nonintact D&E procedure. But why not, one might ask. Nonintact D&E could equally be characterized as "brutal," involving as it does "tear[ing] [a fetus] apart" and "ripp[ing] off" its limbs. "[T]he notion that either of these two equally gruesome procedures . . . is more akin to infanticide than the other, or that the State furthers

[17] Bjorn Merker "Consciousness without a Cerebral Cortex: A Challenge for Neuroscience and Medicine," Behavioral and Brain Sciences. 30 (Feb 2007), 63-81.
[18] W Penfield, Epilepsy and the Functional Anatomy of the Human Brain, boston: Little, Brown & Co; 1954.
[19] Umberto Castiello, et al, "Wired to be Social: The Ontogeny of Human Interaction," Plos One (October 2010).
[20] DB Edelman, "Identifying Hallmarks of Consciousness in Non-mammalian Species," Conscious Cognition. 14 (2005) 169-187.
[21] See KJS Anand, "Fetal Pain?" Pain: Clinical Updates, 14 (2006) 1-4.

any legitimate interest by banning one but not the other, is simply irrational."[23] Despite her pro-choice bias, Justice Ginsberg has confirmed the violation of human rights inflicted upon a pain capable fetus.

There are many instances in our society in which we take extra precautions to prevent pain even though we do not know whether the recipient is capable of fully experiencing pain. When organs are harvested from a person who has experienced brain death, we administer anesthesia. Prior to undergoing a painful procedure, a person in a persistent vegetative state is given anesthesia. When a convicted murderer is given the death penalty, there is a long list of safeguards to make sure that this individual dies as quickly and painlessly as possible. We have many laws that monitor how animals raised to provide meat should be treated when they are butchered, and many more laws to tell us how we should interact with pets so that they do not experience pain. A conference on pain in laboratory animals noted that "it is imperative to acknowledge that unless it is established to the contrary, we should assume that those procedures that produce pain in us might also produce pain in animals" and proposes preemptive analgesia in those situations.[24]

The American Association of Pro-Life Obstetricians and Gynecologists calls for our society to reevaluate our extreme commitment to abortion on demand after the first trimester of pregnancy. Elective abortion is readily available in the first trimester of pregnancy, and almost all abortions in the U.S. are obtained for social and financial reasons. A late-term abortion inflicts tremendous pain on the fetus, who is an immature living member of the human species. Surely we can afford the smallest and most vulnerable pain-capable members of our own species the caution and respect we afford to other species regarding pain capability and suffering.

[23] Stenberg, 530 U. S., at 946–947.

[24] GF Gebhart, "Scientific Issues of Pain and Distress," Definition of Pain and Distress and Reporting Requirements for