

---

**From:** David Prentice <DPrentice@lozierinstitute.org>  
**Sent:** Monday, August 15, 2022 10:03 AM  
**To:** ATG Help  
**Cc:** Tara Sander Lee; Ingrid Skop; David Prentice  
**Subject:** [EXT] Comment on South Dakota Attorney General Draft Statement on Constitutional Amendment

August 15, 2022

Office of the Attorney General  
Ballot Comment  
1302 E. Hwy. 14, Suite 1  
Pierre, SD 57501  
[ATGhelp@state.sd.us](mailto:ATGhelp@state.sd.us)

### **Comment on South Dakota Attorney General Draft Statement on Constitutional Amendment**

This comment is filed in response to the release of the draft Attorney General's Statement on "A Constitutional Amendment Concerning the Regulation of Abortion" and to highlight the lack of understanding of the medical and scientific facts embodied in the draft statement and the proposed constitutional amendment. Since one purpose of the Attorney General's statement is to "educate the voters of the purpose and effect of the proposed" measure, we urge the Attorney General to take the following facts to heart and revise the draft statement to reflect the modern scientific facts and implications of the proposed constitutional amendment.

The U.S. Supreme Court decision in *Dobbs v. Jackson Women's Health Organization* (597 U.S. \_\_\_ (2022); [https://www.supremecourt.gov/opinions/21pdf/19-1392\\_6j37.pdf](https://www.supremecourt.gov/opinions/21pdf/19-1392_6j37.pdf)) found no right to abortion within the U.S. Constitution, and returned authority on regulation of abortion to the people and their elected representatives. Among the errors in *Roe v. Wade* and other previous decisions pointed out by the Court were reliance on unscientific and manufactured medical evidence, such as an arbitrary viability line and imposition of a trimester system which has no basis in medical science.

If anything, the proposed state constitutional amendment is an even more egregious departure from factual science and medicine than were *Roe v. Wade* and *Doe v. Bolton* on the national level. It ignores the effects of abortion on the lives of women as well as the status of the unborn child. The proposed state constitutional amendment, and the Attorney General's draft statement, completely ignore both (1) the medical facts regarding risks to the mother's life in regard to abortion, and (2) the existence of another human being whose life is also at stake, the fact that there are two lives impacted in any decision regarding abortion.

### **MEDICAL RISKS TO WOMEN**

The proposed constitutional amendment is outdated and recycles non-scientific discussion from fifty years ago. The trimester system dividing a pregnancy length into three equal parts was invented by the Blackmun Court. It was not an obstetric term. In 1973, viability—the gestational age when a young human being can survive separated from his mother—was thought to be around 26-28 weeks gestation, hence the Court's presumption that the state did not have an interest in protection of that life until the so-called third trimester. With advances in medical technology over the last fifty years, the age of viability has decreased dramatically, with some children surviving birth at less than twenty-two weeks gestation, many with good quality of life (Watkins PL *et al.*, Outcomes at 18-22 months of corrected age for infants born at 22-25 weeks of



gestation in a center practicing active management. *J Pediatr.* 217, 52-58, 2020, DOI: [10.1016/j.jpeds.2019.08.028](https://doi.org/10.1016/j.jpeds.2019.08.028).)

The presumption in the proposed constitutional amendment is that early abortion is so safe that legislation to protect a woman's safety is never necessary until the second trimester. This is factually incorrect, and the presumption puts women's lives and health at risk. Abortion carries significant physical and psychological risks to the pregnant woman (AAPLOG, "Induced abortion and adverse mental health effects," <https://aaplog.org/induced-abortion-and-adverse-mental-health-effects/>), and these physical and psychological risks increase with gestational age (AAPLOG. "Abortion and Mental Health." Practice Bulletin. December 2019, <https://aaplog.org/wp-content/uploads/2019/12/FINAL-Abortion-Mental-Health-PB7.pdf>). While maternal mortality from abortion increases dramatically as pregnancy progresses, there is still significant risk from induced abortion even early in pregnancy, including the risk of sepsis, cervical damage and uterine perforation which can be caused by first trimester dilation and suction procedures. CDC data document a 38% increase in mortality for each week an abortion is performed past eight weeks gestation, resulting in 15-fold increased mortality in the early second trimester, 30-fold increase in the mid-second trimester and 76-fold higher risk of death to a woman when an abortion is performed past viability (Bartlett LA *et al.*, Risk Factors for Legal Induced Abortion Related Mortality in the U.S., *Obstet Gynecol.* 103, 729-737, 2004, DOI: [10.1097/01.AOG.0000116260.81570.60](https://doi.org/10.1097/01.AOG.0000116260.81570.60)). Beyond 13-14 weeks gestation, there is significant risk of uterine perforation, hemorrhage and other catastrophic injuries because later abortions require forcing open the strong muscular cervix and performing multiple blind passes with surgical instruments to dismember and remove a fetus and placental tissue (S Wills and K Altman, Does Banning Abortions After 15 Weeks Make Any Sense? *On Point* 68 Charlotte Lozier Institute. September 2021, <https://lozierinstitute.org/does-banning-abortions-after-15-weeks-make-any-sense/>) (Kerns JL *et al.*, Disseminated Intravascular Coagulation and Hemorrhage After Dilation and Evacuation Abortion for Fetal Death, *Obstet Gynecol.* 134, 708-713, 2019, DOI: [10.1097/AOG.00000000000003460](https://doi.org/10.1097/AOG.00000000000003460)).

Abortion complications and associated deaths are no doubt underreported, due to the lack of mandatory abortion reporting in the U.S. (Studnicki J *et al.*, Improving the Metrics and Data Reporting for Maternal Mortality: A Challenge to Public Health Surveillance and Effective Prevention, *Online Journal of Public Health Informatics* 11(2):e17, DOI: [10.5210/ojphi.v11i2.10012](https://doi.org/10.5210/ojphi.v11i2.10012)), and biased interpretations by researchers affiliated with the abortion industry give the impression of safety. However, high-quality European records with far more complete and accurate reporting on pregnancy outcomes document far higher rates of maternal deaths following abortion compared to childbirth (Gissler M *et al.*, Pregnancy Associated Mortality After Birth, Spontaneous Abortion or Induced Abortion in Finland. 1987-2000, *American Journal Obstetrics and Gynecology*, 190, 422-427, 2004, DOI: [10.1016/j.ajog.2003.08.044](https://doi.org/10.1016/j.ajog.2003.08.044); Karalis E *et al.*, Decreasing mortality during pregnancy and for a year after while mortality after termination of pregnancy remains high: a population based register study of pregnancy associated deaths in Finland 2001-2012, *British Journal Obstet Gynecol.* 124, 1115-1121, 2017, DOI: [10.1111/1471-0528.14484](https://doi.org/10.1111/1471-0528.14484); Reardon DC, Thorp JM, Pregnancy associated death in record linkage studies relative to delivery, termination of pregnancy, and natural losses: A systematic review with a narrative synthesis and meta-analysis. *SAGE Open Medicine* 5, 1-17, 2017, DOI: [10.1177/2050312117740490](https://doi.org/10.1177/2050312117740490)). Abortion is also associated with a significantly increased risk of low birth weight and pre-term birth in subsequent pregnancies (Shah PS *et al.*, Induced termination of pregnancy and low birthweight and preterm birth: a systematic review and meta-analyses, *BJOG* 116, 1425-1442, 2009, DOI: [10.1111/j.1471-0528.2009.02278.x](https://doi.org/10.1111/j.1471-0528.2009.02278.x); and Swingle HM *et al.*, Abortion and the risk of subsequent preterm birth: a systematic review with meta-analyses, *Journal of Reproductive Medicine* 54, 95-108, 2009, <https://pubmed.ncbi.nlm.nih.gov/19301572/>). There are also several well-documented independent studies from 2013-2020 that found a significant increased overall risk of mental health disorders in post-abortive women including an elevated risk of psychiatric disorders, increased risk of suicide, increased risk of depression, anxiety, and stress (Coleman PK, The Turnaway Study: A Case of Self-



Correction in Science Upended by Political Motivation and Unvetted Findings, *Frontiers in Psychology*, 13, 905221, 2022, <https://DOI.org/10.3389/fpsyg.2022.905221>).

Further, most abortions occurring at less than ten weeks gestation are performed with the chemical regimen of mifepristone and misoprostol. Due to poor U.S. abortion data, and the tendency for frightened women to turn to an emergency room rather than return to the abortionist, complications are not readily detected, but international records-linkage studies and meta-analyses demonstrate 3.4-7.9% of women will have failed medical abortions and require surgery. Other physical complications include retained tissue, hemorrhage, infection and ongoing pregnancy (Raymond E *et al.*, First trimester medical abortion with mifepristone 200 mg and misoprostol: a systematic review, *Contraception* 87, 36-37, 2013, DOI: [10.1016/j.contraception.2012.06.011](https://doi.org/10.1016/j.contraception.2012.06.011); Chen M, Creinin M, Mifepristone with buccal misoprostol for medical abortion: A systematic review, *Obstet Gynecol* 126, 12-21, 2015, DOI: [10.1097/AOG.0000000000000897](https://doi.org/10.1097/AOG.0000000000000897); Niinimäki M *et al.*, Immediate complications after medical compared with surgical termination of pregnancy, *Obstet Gynecol* 114, 795-804, 2009, DOI: [10.1097/AOG.0b013e3181b5ccf9](https://doi.org/10.1097/AOG.0b013e3181b5ccf9)). The risks to women of chemical abortion regimens can be seen in the fact that the rate of abortion-related emergency room visits following a chemical abortion increased over 500% from 2002 through 2015. Up to 60% of known chemical abortion complications were miscoded as being due to spontaneous abortion (miscarriage), further demonstrating the inaccuracy of U.S. data. (Studnicki J *et al.*, A Longitudinal Cohort Study of Emergency Room Utilization Following Mifepristone Chemical and Surgical Abortions, 1999–2015, *Health Services Research and Managerial Epidemiology* 8:23333928211053965, 2021, DOI: [10.1177/23333928211053965](https://doi.org/10.1177/23333928211053965)). The FDA's recent removal of mifepristone's Risk Evaluation and Mitigation Strategy (REMS) in-person safety restrictions will only result in chemical abortions becoming even more dangerous, risking women's lives, health and future pregnancies (Skop I, Chemical abortion: Risks posed by changes in supervision, *Journal of American Physicians and Surgeons* 27, 56-61, 2022, <https://www.jpands.org/vol27no2/skop.pdf>).

It has been documented on many occasions that unsupervised abortion providers may provide poor quality care. Dr. Kermit Gosnell, who was convicted of manslaughter and whose abortion clinic was dubbed "The House of Horrors" by the Philadelphia district attorney, did not receive an inspection from the Pennsylvania Department of Health for over seventeen years, allowing him to prey on poor inner city minority women for decades. More recently, a Pensacola abortionist lost his medical license, and his clinic was shuttered after he nearly killed three women in three consecutive months. There is no supervising organization for all abortion providers as there are for every other medical specialty, so the responsibility for ensuring safe quality abortion care for women falls to the state's legislation. Abortion providers currently are less regulated than cosmetologists and barber shops.

Finally, the South Dakota proposition that abortion may still be allowed if necessary for the life and "health" of the mother mirrors the Supreme Court's *Doe v. Bolton* decision, whereby "health" was defined as any factor that contributed to the woman's physical, emotional, psychological, or familial well-being, including her age. Clearly, this "health" exemption can be, and has been, used to permit almost any abortion, up until birth. It is extraordinarily rare, if non-existent, for a dangerous late-term abortion to be indicated to protect a woman's life in the third trimester, as a life-threatening event after fetal viability can be more safely managed by induction or c-section, not intentionally killing the unborn child in abortion (Skop I, Medical Indications for Separating a Mother and Her Unborn Child, May 2022, <https://lozierinstitute.org/fact-sheet-medical-indications-for-separating-a-mother-and-her-unborn-child/>). There are few places in the world that allow such unfettered abortion, and passage of this constitutional amendment would place South Dakota's abortion law on par with human rights abusers such as North Korea and the People's Republic of China (Baglini Nguyen A, Gestational Limits on Abortion in the United States Compared to International Norms, *American Report Series* Issue 6, Charlotte Lozier Institute, 2014, <https://lozierinstitute.org/internationalabortionnorms/>).



## TWO HUMAN LIVES AT RISK IN ABORTION

The Attorney General's draft statement and the proposed constitutional amendment completely ignore the existence of another human being whose life is also at stake in abortion. The existence of this human life has been accepted among knowledgeable scientists as consensus for decades. For example, the Carnegie stages of human development—which accept fertilization (sperm-egg fusion) as the beginning of human life and organismal development—have been the accepted standard of human embryological development since 1942 and reaffirmed by leading embryologists since that time (O'Rahilly R, Müller F, *Developmental Stages in Human Embryos: Revised and New Measurements, Cells Tissues Organs* 192, 73–84, 2010, DOI: [10.1159/000289817](https://doi.org/10.1159/000289817)). A recent survey found that 96 percent of 5,577 biologists from 1,058 academic institutions affirmed that a human's life begins at fertilization; 85 percent of the 5,577 biologists self-identified as pro-choice (*Brief of Biologists as Amici Curiae in Support of Neither Party*, filed with the U.S. Supreme Court, 2021. [https://www.supremecourt.gov/DocketPDF/19/19-1392/185346/20210729162737297\\_19-1392%20BRIEF%20OF%20BIOLOGISTS%20AS%20AMICI%20CURIAE%20IN%20SUPPORT%20OF%20NEITHER%20PARTY.pdf](https://www.supremecourt.gov/DocketPDF/19/19-1392/185346/20210729162737297_19-1392%20BRIEF%20OF%20BIOLOGISTS%20AS%20AMICI%20CURIAE%20IN%20SUPPORT%20OF%20NEITHER%20PARTY.pdf)).

**Medical and scientific authorities now know more about human prenatal development than ever before and are saving unborn children like never before.**

Human development, a brief timeline

**At the moment of conception when the sperm fuses with the egg (about 2 weeks' gestation) there is the creation of a new, totally distinct, unborn child—a human being.** A human being has a complete DNA genome genetically distinct and separate from the mother (T. W. Sadler, *Langman's Medical Embryology*, 14<sup>th</sup> ed., Philadelphia: Wolters Kluwer, 2019).

**Between 5- and 6-weeks' gestation, an unborn child's heart begins to beat.** The heart is the first organ to form in a developing human being (Tan CMJ and Lewandowski AJ, *The Transitional Heart: From Early Embryonic and Fetal Development to Neonatal Life, Fetal Diagn Ther* 47, 373-386, 2020, DOI: [10.1159/000501906](https://doi.org/10.1159/000501906)).

**The heart rate averages 110 beats per minute by the end of the 6<sup>th</sup> week, increasing to approximately 170 beats per minute by the 10<sup>th</sup> week.** This same heart will beat 54 million times before birth, and over 3.2 billion more times into adulthood, constantly pumping blood through the entire human body for a lifetime (Hornberger LK, Sahn DJ. Rhythm abnormalities of the fetus, *Heart* 93, 1294-300, 2007, DOI: [10.1136/hrt.2005.069369](https://doi.org/10.1136/hrt.2005.069369); The Beat Goes On – Tracking the Total Number of Heart Beats During Pregnancy and Beyond, The Endowment for Human Development, [https://www.ehd.org/dev\\_article\\_appendix.php](https://www.ehd.org/dev_article_appendix.php)).

**An unborn child begins to move about in the womb and reacts to touch at approximately 8 weeks gestation** (de Vries JI *et al.*, The emergence of fetal behaviour. I. Qualitative aspects. *Early human development*, 7, 301–322, 1982, DOI: [10.1016/0378-3782\(82\)90033-0](https://doi.org/10.1016/0378-3782(82)90033-0))

**The eyes begin to form at 5 weeks gestation and finish forming by 10 weeks' gestation; eye movements can be detected by ultrasound at 12 weeks' gestation** (Eye Formation: Dive Deeper. Voyage of Life by the Charlotte Lozier Institute. <https://lozierinstitute.org/dive-deeper/eye-formation/>)

**By 8 to 9 weeks, the unborn child has detectable brain waves** (Borkowski WJ, Bernstine RL, Electroencephalography of the Fetus, *Neurology* 5, 362, 1955, DOI: [10.1212/WNL.5.5.362](https://doi.org/10.1212/WNL.5.5.362)).

**As early as 10 weeks' gestation, all of the unborn child's organ rudiments are formed and in place, the unborn child sucks his or her thumb, and it is possible to determine whether he or she is left-handed or right-handed.** The digestive system and kidneys start to function at this time, and the unborn child will show a preference for either right handedness or left handedness (Hepper PG, Lateralised Behaviour in First Trimester Human Foetuses, *Neuropsychologia* 36, 531–534, 1998, [10.1016/S0028-3932\(97\)00156-5](https://doi.org/10.1016/S0028-3932(97)00156-5); Right and Left-Handedness: Dive Deeper, The Voyage of Life. Charlotte Lozier Institute. <https://lozierinstitute.org/dive-deeper/right-and-left-handedness/>).



**By 11 weeks' gestation, teeth as well as external genitalia begin to form** (T. W. Sadler, *Langman's Medical Embryology*, 14<sup>th</sup> ed., Philadelphia: Wolters Kluwer, 2019; and Teeth: Dive Deeper. Voyage of Life by the Charlotte Lozier Institute. <https://lozierinstitute.org/dive-deeper/teeth/>).

**At 12 weeks' gestation, an unborn child can open and close his or her fingers, starts to make sucking motions, and senses stimulation from the world outside the womb.** (The Voyage of Life. Charlotte Lozier Institute. <https://lozierinstitute.org/fetal-development/week-9-to-10/>).

**Fingerprints start forming at 12 weeks and are fully developed by 19 weeks** (Babler WJ, Embryologic development of epidermal ridges and their configurations, *Birth defects original article series*, 27(2), 95–112, 1991; and When and How Fingerprints Form: Dive Deeper, The Voyage of Life. Charlotte Lozier Institute. <https://lozierinstitute.org/dive-deeper/when-and-how-fingerprints-form/>).

**By 15 weeks, the unborn child can taste, feel pain, the skeleton has hardened from cartilage into bone, and the heart pumps 26 quarts of blood (15 Facts at 15 Weeks, Charlotte Lozier Institute.** <https://lozierinstitute.org/15-facts-at-15-weeks/>)

**By 16 weeks, the unborn child can hear and at 24 weeks respond to music, reading, and singing** (Graven SN and Browne JV, Auditory Development in the Fetus and Infant. *Newborn and Infant Nursing Reviews* 8, 187-193, 2008, DOI: [10.1053/j.nainr.2008.10.010](https://doi.org/10.1053/j.nainr.2008.10.010); and Hearing in the Womb: Dive Deeper, The Voyage of Life. Charlotte Lozier Institute. <https://lozierinstitute.org/dive-deeper/hearing-in-the-womb/>).

**Recent medical and surgical advances have made it possible for unborn children to receive life-saving treatment while still inside the womb, some as early as 15 weeks' gestation** As of July 2022, there are over 35 medical centers in the U.S. that perform advanced in-utero fetal therapeutic procedures (Charlotte Lozier Institute. Fact Sheet: The Growth of Maternal-Fetal Medicine and Fetal Care Centers in the United States. July 2022. <https://s27589.pcdn.co/wp-content/uploads/2022/07/Fact-sheet-Maternal-Fetal-Medicine-pdf.pdf>)

**Medical technology and active physician care has made it possible to save extremely premature babies and decline the age of viability to as early as 21 weeks (5 months) gestation** (Saving Extremely Premature Babies: Dive Deeper, The Voyage of Life. Charlotte Lozier Institute. <https://lozierinstitute.org/dive-deeper/saving-extremely-premature-babies/>; and <https://www.guinnessworldrecords.com/news/2021/11/worlds-most-premature-baby-defies-sub-1-survival-odds-to-break-record-681851>).

**There is substantial medical evidence that an unborn child is capable of experiencing pain and consciousness very early in the womb, by at least 12-15 weeks' gestational age.**

**Pain receptors (nociceptors) begin forming at 7 weeks' gestational age** (Myers LB, Bulich LA, Hess, P, Miller, NM. Fetal endoscopic surgery: indications and anaesthetic management. *Best Practice & Research Clinical Anaesthesiology*. 18:2 (2004) 231-258; Anand KJS, Hickey PR. Pain and its effects in the human neonate and fetus. *New England Journal of Medicine*. 317:21 (1987) 1321-1329).

**Nerves linking these pain receptors to the brain's thalamus and subcortical plate form between 12 and 20 weeks' gestational age. The thalamus functions in pain perception in fetuses as well as in adults.**

(Derbyshire SWG and Bockmann JC, Reconsidering fetal pain, *Journal of Medical Ethics* 46, 3-6, 2020, doi: [10.1136/medethics-2019-105701](https://doi.org/10.1136/medethics-2019-105701); Kostović I, Judaš M, The development of the subplate and thalamocortical connections in the human foetal brain, *Acta Paediatr* 99, 1119–1127, 2010, DOI: [10.1111/j.1651-2227.2010.01811.x](https://doi.org/10.1111/j.1651-2227.2010.01811.x); Van de Velde M, De Buck F, Fetal and Maternal Analgesia/Anesthesia for Fetal Procedures, *Fetal Diagnosis and Therapy* 31, 201, 2012, DOI: [10.1159/000338146](https://doi.org/10.1159/000338146); Ulfig N *et al.*, Transient structures of the human fetal brain: subplate, thalamic reticular complex, ganglionic eminence, *Histol Histopathol* 15, 771–790, 2000, DOI: [10.14670/HH-15.771](https://doi.org/10.14670/HH-15.771)).

The application of painful stimuli to an unborn child is associated with significant increases in stress hormones in the unborn child, known as the stress response (Myers LB *et al.*, Fetal endoscopic surgery: indications and anaesthetic management, *Best Pract Res Clin Anaesthesiol* 18, 231, 2004, DOI: [10.1016/j.bpa.2004.01.001](https://doi.org/10.1016/j.bpa.2004.01.001); Brusseau R and Mizrahi-Arnaud A, Fetal Anesthesia and Pain Management for Intrauterine Therapy, *Clinics in Perinatology* 40, 429, 2013, DOI: [10.1016/j.clp.2013.05.006](https://doi.org/10.1016/j.clp.2013.05.006)). In fact, evidence indicates that subjection to



painful stimuli as a fetus is associated with long-term harmful neurodevelopmental effects, such as altered pain sensitivity and, possibly, emotional, behavioral, and learning disabilities later in life (Fink RJ, *et al.*, Remifentanyl for fetal immobilization and analgesia during the ex utero intrapartum treatment procedure under combined spinal–epidural anaesthesia, *British Journal of Anaesthesia* 106, P851–855, 2011, DOI: <https://doi.org/10.1093/bja/aer097>).

For the purposes of surgery on unborn children, fetal anesthesia is routinely administered and is associated with a decrease in stress hormones compared to their level when painful stimuli are applied without such anesthesia (Fisk NM *et al.*, Effect of direct fetal opioid analgesia on fetal hormonal and hemodynamic stress response to intrauterine needling, *Anesthesiology* 95, 828–835, 2001, DOI: [10.1097/00000542-200110000-00008](https://doi.org/10.1097/00000542-200110000-00008)).

Fetal surgeries are now being performed even into the first half of gestation, and incorporate anesthesia and analgesia in the protocols (Lecointre L *et al.*, Fetoscopic Laser Coagulation for Twin–Twin Transfusion Syndrome before 17 Weeks’ Gestation: Laser Data, Complications and Neonatal Outcome, *Ultrasound in Obstetrics & Gynecology* 44, 299–303, 2014, <https://doi.org/10.1002/uog.13375>; Baud D *et al.*, Fetoscopic Laser Therapy for Twin-Twin Transfusion Syndrome before 17 and after 26 Weeks’ Gestation, *Am J Obstet Gynecol*, 208, 197.e1-7, 2013, DOI: 10.1016/j.ajog.2012.11.027; Ramirez MV, Anesthesia for fetal surgery, *Colombian Journal of Anesthesiology* 40, 268, 2012, <https://doi.org/10.1016/j.rcae.2012.07.006>). As one of the world’s leading fetal surgeons on the development of fetal surgery points out, using spina bifida as an example of good medical practice for *in utero* surgical intervention: “Fetal therapy is the logical culmination of progress in fetal diagnosis. In other words, the fetus is now a patient.” (Adzick NS, Prospects for fetal surgery, *Early Human Development* 89, 881-886, 2013, DOI: [10.1016/j.earlhumdev.2013.09.010](https://doi.org/10.1016/j.earlhumdev.2013.09.010)).

### **Standard of medical care now calls for direct fetal analgesia and anesthesia during fetal surgery, beginning at least by 15 weeks.**

Current medical evidence has concluded that from the 15th week gestational age onward, “the fetus is extremely sensitive to painful stimuli,” making it “necessary to apply adequate analgesia to prevent [fetal] suffering.” (Sekulic S *et al.* Appearance of fetal pain could be associated with maturation of the mesodiencephalic structures. *Journal of Pain Research* 9, 1031-1038, 2016, DOI: [10.2147/JPR.S117959](https://doi.org/10.2147/JPR.S117959); Bellieni CV, Analgesia for Fetal Pain During Prenatal Surgery: 10 Years of Progress, *Pediatric Research* 89, 1612, 2020, DOI: [10.1038/s41390-020-01170-2](https://doi.org/10.1038/s41390-020-01170-2)).

Through technological advancements, the peer-reviewed evidence has only become more compelling as ultrasonographic studies have literally given us a window into the womb for the first time. [A study](#) published earlier this year found that fetuses at approximately 31 weeks’ gestation grimaced with pain when their thighs were injected with anesthetic prior to a painful intrauterine surgery (Bernardes LS *et al.*, Sorting Pain Out of Saliency: Assessment of Pain Facial Expressions in the Human Fetus, *Pain Reports* 6(1), e882, 2021, DOI: [10.1097/PR9.0000000000000882](https://doi.org/10.1097/PR9.0000000000000882)). Another 2021 study observed the same result — a pained grimace upon being pricked with a needle with anesthetic — with a 23 weeks’ gestation fetus about to undergo heart surgery in the womb (Bernardes LS *et al.*, Acute Pain Facial Expressions in 23-Week Fetus, *Ultrasound in Obstetrics & Gynecology* 59, 394-395, 2021, DOI: [10.1002/uog.23709](https://doi.org/10.1002/uog.23709)).

Conscious behavior even in early fetal life has also been shown using modern techniques. Ultrasonography on fetal twins reveals that fetuses as young as 14 weeks’ gestation consistently demonstrate differential movements directed at their twin compared to those directed at either themselves or at the uterine wall, showing conscious, intentional behavior (Castiello U *et al.*, Wired to Be Social: The Ontogeny of Human Interaction, *PLoS ONE* 5(10): e13199, <https://doi.org/10.1371/journal.pone.0013199>). As early as 16 weeks’ gestation, fetuses can distinguish between music and mere vibroacoustic noise that stimulates the same auditory pathways (López-Teijón M *et al.*, Fetal Facial Expression in Response to Intravaginal Music Emission, *Ultrasound* 23, 216-223, 2015, DOI: [10.1177/1742271X15609367](https://doi.org/10.1177/1742271X15609367)). Fetuses at 23 weeks of life distinguish nursery rhymes with the syllable “LA” from rhymes with the syllable “LU” (Ferrari GA *et al.*, Ultrasonographic Investigation of Human



Fetus Responses to Maternal Communicative and Non-communicative Stimuli, *Frontiers Psych.* 7, Article 354, 2016, <https://doi.org/10.3389/fpsyg.2016.00354>).

**Substantial evidence indicates that a functioning cerebral cortex is not required to experience pain. The thalamus appears to be the functional site for pain.**

Children born missing the bulk of the cerebral cortex, those with hydranencephaly, nevertheless experience pain (see, e.g., Merker B, Consciousness Without a Cerebral Cortex: A Challenge for Neuroscience and Medicine, *Behav. & Brain Sci.* 30, 63, 2007, DOI: [10.1017/S0140525X07000891](https://doi.org/10.1017/S0140525X07000891)).

In adult humans and in animals, stimulation or ablation of the cerebral cortex does not alter pain perception, while stimulation or ablation of the thalamus does (Mazzola L *et al.*, Stimulation of the Human Cortex and the Experience of Pain: Wilder Penfield's Observations Revisited, *Brain* 135, 631, 2012, DOI: [10.1093/brain/awr265](https://doi.org/10.1093/brain/awr265)).

Anesthesia-induced loss of consciousness, and therefore conscious pain perception, is associated with a reduction in the activity of the thalamus, not the cortex (Song X, Yu B, Anesthetic Effects of Propofol in the Healthy Human Brain: Functional Imaging Evidence, *J. Anesthesia* 29, 279, 2015, DOI: [10.1007/s00540-014-1889-4](https://doi.org/10.1007/s00540-014-1889-4); Gili T *et al.*, The Thalamus and Brainstem Act as Key Hubs in Alterations of Human Brain Network Connectivity Induced by Mild Propofol Sedation, *J. Neuroscience* 33, 4024, 2013, DOI: [10.1523/JNEUROSCI.3480-12.2013](https://doi.org/10.1523/JNEUROSCI.3480-12.2013)); additional references cited in: *Dobbs v. Jackson*. Brief of Maureen L. Condic, PhD and the Charlotte Lozier Institute as Amici Curiae supporting petitioners, 2021.

<https://lozierinstitute.org/wp-content/uploads/2021/07/CLI-Dobbs-Amicus-Brief.pdf>).

In summary, the medical and scientific evidence overwhelmingly shows that abortion has significant risks for women, and destroys a young, developing human being. The statement of the Attorney General should educate the public of the full facts, so that citizens can make an informed choice.

Tara Sander Lee, Ph.D.  
Senior Fellow and Director of Life Sciences

Ingrid Skop, M.D., F.A.C.O.G.  
Senior Fellow and Director of Medical Affairs

David A. Prentice, Ph.D.  
Vice President and Research Director  
Charlotte Lozier Institute  
202-288-5819  
[dprentice@lozierinstitute.org](mailto:dprentice@lozierinstitute.org)