

DR. ALÍ LOZADA
PRESIDENT OF THE CONSTITUTIONAL COURT OF ECUADOR

Case N° 41-22-IN and Accumulated

***AMICUS CURIAE*: THE AMERICAN ASSOCIATION OF PRO-LIFE
OBSTETRICIANS AND GYNECOLOGISTS (“AAPLOG”)**

Table of Content

I. Court appearance	2
II. General notions of AAPLOG	2
III. The defense of the 12-week ban on access to abortion	2
3.1. Published, peer-reviewed studies show that later-term abortions are significantly tied to abortion-related deaths.	2
3.1.1. The increased blood flow predisposes to hemorrhage.	4
3.1.2. The relaxed myometrium is more subject to mechanical perforation.	5
3.2. Published, peer-reviewed studies show that later-term abortion raises the risk of later premature births.	6
3.3. Published, peer-reviewed studies correlate abortion with breast-cancer risks, which rise with gestational age.	7
3.4. Published, peer-reviewed studies increasingly show that later-term abortion raises the risk of depression, drug abuse, and suicide.	9
3.5. Fetal Pain	11
3.5.1. Pain with a Cerebral Cortex	12
3.5.2. Non-Human Animals	12
3.5.3. Embryology and Fetal Development	13
IV. The defense of mandatory ultrasound before performing abortions	14
4.1. Ultrasound imaging shows truthful, nonmisleading information relevant to the decision to undergo an abortion procedure.	14
4.1.1. Ultrasound imaging is a safe diagnostic medical test that shows truthful, nonmisleading images in real time.	14
4.1.2. Ultrasound imaging has a wide range of uses, including in the contexts of pregnancy, abortion, and informed consent.	15
4.1.3. Ultrasound imaging shows truthful, nonmisleading information about a woman's pregnancy and reveals the biological reality of her unborn child.	19
4.2. This Court should require that pregnant women receive an ultrasound viewing option during the informed consent process for an abortion procedure.	19
V. The defense of conscious of abjection form physicians	20
5.1. Hippocratic Oath	20
5.2. Two philosophical frameworks: Eudaimonism and Hedonism	21
5.3. Hippocratic vs Utilitarian Medical Ethics	21
5.4. Examples of actions which were legal but heinous crimes against humanity	22
5.5. No one has the authority to compel physicians to kill human beings.	23
VI. Request	23

I. Court appearance

Dr. Christina Francis, in my capacity as Chief Executive Officer, representing THE AMERICAN ASSOCIATION OF PRO-LIFE OBSTETRICIANS AND GYNECOLOGISTS (AAPLOG) pursuant to Article 12 of the Organic Law of Jurisdictional Guarantees and Constitutional Control ("LOGJCC"), I hereby submit the following amicus curiae:

II. General notions of AAPLOG

AAPLOG is a nonprofit professional medical organization with approximately 7,000 members and associates. Since 1973, the Association has worked to ensure that pregnant women receive the highest-quality medical care and are fully informed of the effects of abortion, including its potential long-term consequences for women's health. Recognized for 40 years as the largest "special interest" entity within the American College of Obstetricians and Gynecologists (until the College abolished special-interest groups in 2013), the Association offers healthcare professionals and the public a better understanding of abortion-related health risks. Some of these risks include abortion-related injuries; future premature (or "preterm") birth; breast cancer; depression, substance abuse, and suicide.

The Association also educates the public about human development and recent advancements and findings in obstetrics and gynecology.

III. The defense of the 12-week ban on access to abortion

3.1. Published, peer-reviewed studies show that later-term abortions are significantly tied to abortion-related deaths

The restriction of abortions after 15 weeks has strong support from a leading study by a maternal-health specialist at the National Institutes of Health. This study was led by Linda A. Bartlett, titled Risk Factors for Legal Induced Abortion Mortality in the United States,¹ and was published by the journal of the American College of Obstetricians and Gynecologists. The Bartlett Study was designed to "provide information on risk factors for abortion-related deaths among women who had abortions in recent years that will help inform and update policymakers and practitioners about abortion-related maternal mortality."² To ensure reliability, the Bartlett Study used data from the Centers for Disease Control and Prevention's Pregnancy Mortality Surveillance System, "which attempts to identify all deaths in the United States caused by pregnancy, including those ending in induced abortion."³

¹ See Linda A. Bartlett, et al., Risk Factors for Legal Induced Abortion Mortality in the United States, 103(4) *Obstet. & Gyn.* 729 (2004) (Bartlett Study); see also, e.g., Daniel Grossman, et al., Complications after Second Trimester Surgical and Medical Abortion, *Reproductive Health Matters* 173 (2008) 3 (Supp. 31) (relying on Bartlett Study).

² Bartlett, 103(4) *Obstet. & Gyn.* at 729–30

³ *Id.* at 730.

As the Bartlett Study found, “the strongest risk factor for abortion-related mortality” was “gestational age at the time of abortion.”⁴ “The lowest rates were among women who had their abortions in the first trimester of pregnancy, particularly within the first 8 weeks of pregnancy. Women whose abortions were performed in the second trimester (at or after 13 weeks of gestation) had abortion-related mortality rates greater than women whose abortions were performed in the first 8 weeks of pregnancy.”⁵ Indeed, “[i]f women who had abortions after 8 weeks of gestation had obtained abortions during the first 8 weeks of pregnancy, when risk is lowest, 87% of deaths likely could have been prevented”.⁶

Just as strikingly, “the risk of death increased exponentially with increasing gestational age. According to this model, there is a 38% increase in risk of death for each additional week of gestation”.⁷ “Thus, the estimated increase in the risk of death due to delaying the procedure by 1 week at 17 weeks of gestation is 18 times greater than the estimated increase in the risk of death by delaying the procedure by 1 week at 8 weeks of gestation.”⁸

This stark increase in risk, the Bartlett Study concluded, calls for earlier abortions. “Because access to abortions even 1 week earlier reduces the risk of death disproportionately as gestational age increases, addressing this risk factor by further reducing the gestational age at which women have abortions may help to further reduce the risk of death”.⁹

The Bartlett Study is not alone. Seven years later, researchers again found an “increased risk of complications” associated with abortion with “increasing gestational age”.¹⁰ In a study conducted by Maarit, J. Mentula about the Immediate Adverse Events after Second Trimester Medical Termination of Pregnancy: Results of a Nationwide Registry Study, (2011) that had as purpose “to assess the rate of adverse events and complications following the second trimester medical [abortion] and to compare it with those following the first trimester medical [abortion]. [The authors] focused (...) on [hemorrhage], infection and surgical evacuation in cases of incomplete abortion”.¹¹ The result concluded that “[S]econd trimester medical [abortion] was associated with an increased risk of surgical evacuation and infection”.¹²

Even early abortions—and pregnancy losses generally—are tied to higher mortality rates. According to a recent meta-analysis, studies from three countries reported mortality rates associated with termination of pregnancy, miscarriage or failed pregnancy. Within a year of their pregnancy outcomes, women experiencing a pregnancy loss are over twice as

⁴ Bartlett, 103(4) *Obstet. & Gyn.* at 731, 735

⁵ *Id.* at 731

⁶ *id.* at 736 (same).

⁷ Bartlett, 103(4) *Obstet. & Gyn.* at 731

⁸ *Id.* at 732.

⁹ Bartlett, 103(4) *Obstet. & Gyn.* at 735.

¹⁰ Maarit, J. Mentula, et al., *Immediate Adverse Events after Second Trimester Medical Termination of Pregnancy: Results of a Nationwide Registry Study*, 26(4) *Human Reproduction*.at 927 (2011)

¹¹ *Id.* at 928

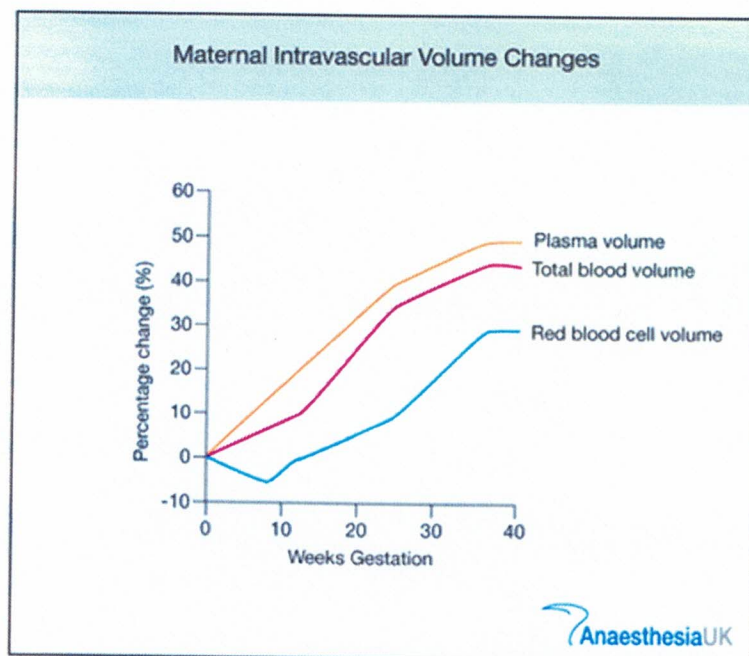
¹² *Id.* at 930.

likely to die compared to women giving birth.” (David C. Reardon & John M. Thorp).¹³ “This elevated mortality risk persists over many years, is multiplied by repeat exposure to pregnancy loss, and may be reduced by successful deliveries. The quality of these eleven studies is very high, with all but the one earliest attempt scoring 8 or above on the [National Committee for Quality Assurance Standards] (with a range 0- 9)”.¹⁴

There are good reasons that later-term abortions are particularly associated with complications and risks. “The increased amount of fetal and placental tissue requires a greater degree of cervical dilation, the increased blood flow predisposes to hemorrhage, and the relaxed myometrium [i.e., the wall of the uterus] is more subject to mechanical perforation. The technical challenges of the procedure during the second trimester are different from those present in the first trimester, and the inherently greater risk of complications may be less amenable to prevention”.¹⁵ We address these risks in turn.

3.1.1. The increased blood flow predisposes to hemorrhage

As the pregnancy goes on, blood flow rises some 50%, as do plasma levels:



Anaesthesia UK, Physiological Changes of Pregnancy (2006).

The increased blood flow is also due, in part, to dramatic changes pregnancy triggers in the uterus, which grows and increases in vascularity. “The greater size of the uterus as a

¹³David C. Reardon & John M. Thorp, *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*, 5 SAGE Open Med. 1, 1 (2017) (emphasis added)

¹⁴ Id. at 9.

¹⁵ Bartlett, 103(4) *Obstet. & Gyn.* at 735.

result of pregnancy is due to a marked increase in the number of muscle fibres, blood vessels, nerves, and lymphatic vessels in the uterine wall. There is also a five- to tenfold increase in the size of the individual muscle fibre and marked enlargement in the diameters of the blood and lymph vessels”.¹⁶ Unsurprisingly, given the changes in the uterus, “the risk of ... hemorrhage increases with advancing gestational age.”¹⁷

3.1.2. The relaxed myometrium is more subject to mechanical perforation

The risk of hemorrhage rises because the thinned wall (or myometrium) of the uterus is more vulnerable to “mechanical perforation”—that is, puncturing.¹⁸ Indeed, “uterine perforation is one of the more common complications” even in dilation-and-curettage abortions; and the risk rises with “gestational age”.¹⁹

Punctures in the uterus can also be caused by pieces of the fetus itself. To avoid this danger, abortion providers “must be very careful to avoid pushing fetal parts with the forceps since this may push them deeper into the [cavity of the uterus] and even through the uterine wall.”²⁰ Instead, “fetal parts should be brought down to the lower uterine segment for disarticulation. (...) Caution should be employed since bony spicules [i.e., spikes] exposed during fetal disarticulation can perforate the uterine walls and abrade the cervix”.²¹

Given these risks of hemorrhage and uterine perforation, the Bartlett Study spoke rightly, if delicately, of the “technical challenges” of second-trimester abortions. The U.S. Supreme Court described the procedure more bluntly:

“The surgical procedure referred to as “dilation and evacuation” or “D&E” is the usual abortion method in this trimester. Although individual techniques for performing D&E differ, the general steps are the same.

A doctor must first dilate the cervix at least to the extent needed to insert surgical instruments into the uterus and to maneuver them to evacuate the fetus. The steps taken to cause dilation differ by physician and gestational age of the fetus. A doctor often begins the dilation process by inserting osmotic dilators, such as laminaria (sticks of seaweed), into the cervix. The dilators can be used in combination with drugs, such as misoprostol, that increase dilation. ... In general the longer dilators remain in the cervix, the more it will dilate. Yet the length of time doctors employ osmotic dilators varies. Some may keep dilators in the cervix for two days, while others use dilators for a day or less.

¹⁶ John W. Huffman, Pregnancy, Encyclopedia Britannica (Feb. 7, 2020).

¹⁷ Hammond, C. Second-Trimester Pregnancy Termination: Dilation and Evacuation, (2020), UptoDate website. <https://perma.cc/W827-YAK8>

¹⁸ Bartlett, 103(4) Obstet. & Gyn. at 735

¹⁹ Eugene C. Toy, Perforation with Uterine Sound and Suction Cannula During a D&C, SASGOG (2014).

²⁰ Hammond, supra

²¹ Id.

After sufficient dilation the surgical operation can commence. The woman is placed under general anesthesia or conscious sedation. The doctor, often guided by ultrasound, inserts grasping forceps through the woman's cervix and into the uterus to grab the fetus. The doctor grips a fetal part with the forceps and pulls it back through the cervix and vagina, continuing to pull even after meeting resistance from the cervix. The friction causes the fetus to tear apart. For example, a leg might be ripped off the fetus as it is pulled through the cervix and out of the woman. The process of evacuating the fetus piece by piece continues until it has been completely removed. A doctor may make 10 to 15 passes with the forceps to evacuate the fetus in its entirety, though sometimes removal is completed with fewer passes. Once the fetus has been evacuated, the placenta and any remaining fetal material are suctioned or scraped out of the uterus".²²

To sum up, a second-trimester abortion requires: extensive dilation; grasping forceps; force powerful enough to dismember the fetus; and suctioning and/or scraping. And it does so when there is 50% greater blood flow, a profusion of blood vessels, a softened uterus, and sharp fetal bone fragments. Given all this, later-term abortions unsurprisingly pose an "inherently greater risk of complications" than earlier abortions.²³ What is more, later-term abortion risks leaving behind "retained products of conception"—that is, parts of the fetus or placenta, which can cause bleeding and other complications if not removed.²⁴ So, "at the end of the procedure, the surgeon should inventory evacuated contents and account for the major fetal parts (calvaria [i.e., skull cap], thorax, pelvis, four extremities [i.e., limbs])."²⁵

Given this increased risk of complications, women would be protected by a law that requires that abortions only take place early in pregnancy.

3.2. Published, peer-reviewed studies show that later-term abortion raises the risk of later premature births.

Preterm birth is associated with "significant maternal and infant health risks" and is considered an "epidemic" in the United States.²⁶ Despite years of effort and widespread interventions, "population level reduction in preterm birth rates have not been achieved".²⁷ In 2021, after a pattern of increases, the preterm birth rate rose once again, to 10.5%.²⁸

Babies born preterm—that is before 37 weeks' gestation—have higher rates of death and disability. According to the Centers for Disease Control and Prevention, in 2020 preterm

²² *Gonzales v. Carhart*, 550 U.S. 124, 135–35 (2007) (citations omitted).

²³ *Bartlett*, 103(4) *Obstet. & Gyn.* at 735.

²⁴ *Hammond*, *supra*.

²⁵ *Id.*

²⁶ Linda S. Franck, et al., *Research Priorities of Women at Risk for Preterm Birth: Findings and a Call to Action*, 20(10) *BMC Pregnancy and Childbirth* 1, 2 (2020)

²⁷ *Id.*

²⁸ See Centers for Disease Control and Prevention, *Reproductive Health: Maternal and Infant Health, Preterm Birth* (Nov. 1, 2022).

birth and low birthweight (which is linked to preterm birth) accounted for about 16% of infant deaths.²⁹ For related reasons, preterm births also impose substantial costs on society. An analysis by the Institute of Medicine estimated the economic costs associated with preterm birth in the United States to be “at least \$26.2 billion in 2005, or \$51,600 per infant born preterm.”³⁰ Based on data spanning 2008 to 2016, a more recent study estimated the average medical costs in the first six months of life at \$76,153 per preterm birth.³¹

Two significant 2009 meta-analyses show a statistically significant link between abortion, especially surgical abortion, and preterm birth. A meta-analysis of 22 studies that included 268,379 patients found that just one induced abortion raises the risk of preterm birth by 36%, and more than one increases the risk by 93%.³²

Later meta-analyses agree. A 2015 meta-analysis of 28 studies, which included 913,297 women, found that women who had a previous surgical abortion had a “significantly higher risk” (52%) of preterm birth.³³ A 2016 meta-analysis of 21 studies that reported on 1,853,017 women who underwent a dilation and curettage (a surgical procedure used for abortion or to complete a miscarriage) had a 29% increased risk of preterm birth and a 69% increased risk of very preterm birth.³⁴

It is true that a 2018 committee report from the National Academy of Sciences, which reviewed only five studies, concluded that “having an abortion does not increase a woman’s risk of ... preterm birth.”³⁵ But the report failed to include at least 70 studies that met the committee’s stated criteria.³⁶

3.3. Published, peer-reviewed studies correlate abortion with breast-cancer risks, which rise with gestational age

²⁹ Centers for Disease Control and Prevention, Preterm Birth, *supra*.

³⁰ Committee on Understanding Premature Birth and Assuring Healthy Outcomes, Institute of Medicine, Preterm Birth: Causes, Consequences, and Prevention (2007)

³¹ Andrew L. Beam, et al., Estimates of Healthcare Spending for Preterm and Low-birthweight Infants in a Commercially Insured Population: 2008–2016, 40 *J. Perinatology* 1091 1, 1 (2020).

³² See P.S. Shah, et al., Induced Termination of Pregnancy and Low Birthweight and Preterm Birth: A Systematic Review and Meta-analysis, 116 *British J. Obstet. & Gyn.* 1425, 1425 (2009). Another meta-analysis of nine studies found that a single induced abortion raised the risk of preterm birth by 25% and very-preterm birth by 64%. See Hanes M. Swingle, et al., Abortion and the Risk of Subsequent Preterm Birth: A Systematic Review with Meta-analyses, 54(2) *J. Reproductive Med.* 95, 95 (2009).

³³ See Gabriele Saccone, et al., Prior Uterine Evacuation of Pregnancy as Independent Risk Factor for Preterm Birth and Metaanalysis, 214(5) *Am. J. Obstet. & Gyn.* 572, 572 (2016).

³⁴ See Marika Lemmers, et al., Dilation and Curettage Increases the Risk of Subsequent Preterm Birth: A Systemic Review and Meta-analysis, *Human Reproduction* 1, 1 (2015).

³⁵ Nat’l Acad. Sci., Eng’g, and Med., The Safety and Quality of Abortion Care in the United States 1, 153 (2018) (NAS Report)

³⁶ See Am. Ass’n of Pro-life Obstet. & Gyn., 5 Practice Bulletin, Evidence Directing Pro-Life Obstetricians & Gynecologists 1, 2 (2019). And the authors had to acknowledge an “increased risk of very preterm birth” associated with two or more abortions. NAS Report at 147. (This should actually say at the beginning “Practice Guideline 5: Abortion & Preterm Birth)

Since 1957, at least 41 studies have shown a positive, statistically significant association between induced abortion and breast cancer.³⁷

To take one example, a 2009 study in the *World Journal of Surgical Oncology* states that “age and induced abortion were found to be significantly associated with increased breast cancer risk”.³⁸ The authors also surveyed a host of analogous studies. And “similar to [the 2009 study’s] findings, the majority of the studies reported that induced abortion was associated with increased breast cancer risk”.³⁹

Likewise, a 2009 study coauthored by Dr. Louise Brinton, Chief of the Hormonal and Reproductive Epidemiology Branch at the National Cancer Institute, found risk factors for breast cancer “consistent with the effects observed in previous studies”.⁴⁰ “Specifically, older age, family history of breast cancer, earlier menarche [i.e., first menstrual period], induced abortion, and oral contraceptive use were associated with an increased risk for breast cancer”.⁴¹

Reaching the same conclusion, Chinese scientists recently included abortion as an important indicator of breast cancer risk in a new model for screening women.⁴² In fact, the study found that abortion had the most impact: one or two abortions increased the risk 151%; three or more increased the risk by 530%.⁴³

Further filling in the picture, another study “found an increased [breast-cancer] risk associated with an increasing number of induced abortions. However, this risk appeared to be restricted to pregnancies with induced interruptions before the first [full-term pregnancy]”.⁴⁴ In other words, women faced a higher risk of cancer after having an abortion if the abortion occurred before the woman had her first child.

Breast cancer is linked to induced abortion because of how breasts grow during pregnancy. Immature, newly formed breast tissue is susceptible to cancer. Mature breast tissue, which can produce milk, resists cancer. Abortion arrests breast tissue in an immature state, before it can produce milk, leaving it vulnerable to cancer.

³⁷ Breast Cancer Prevention Institute, *Epidemiological Studies: Induced Abortion and Breast Cancer Risk* (Apr. 2020) (listing studies).

³⁸ Vahit Ozmen, et al., *Breast Cancer Risk Factors in Turkish Women – a University Hospital Based Nested Case Control Study*, 7(37) *World J. Surgical Oncology* 1, 1 (2009). But this 2009 study was far from alone.

³⁹ *Id.* at 6.

⁴⁰ Jessica M. Dolle, et al., *Risk Factors for Triple-Negative Breast Cancer in Women Under the Age of 45 Years*, 18(4) *Cancer Epidemiology, Biomarkers and Prevention* 1157, 1162–63 (2009).

⁴¹ *Id.* at 1163.

⁴² See Lu Wang, et al., *Risk Prediction for Breast Cancer in Han Chinese Women Based on a Cause-specific Hazard Model*, 19(128) *BMC Cancer* (2019).

⁴³ *Id.* at 4.

⁴⁴ Julie Lecarpentier, et al., *Variation in Breast Cancer Risk Associated with Factors Related to Pregnancies According to Truncating Mutation Location, in the French National BRCA1/2 Carrier Cohort*, 14(R99) *Breast Cancer Research* 1, 16 (2012).

For this reason, “[e]arly full-term pregnancy is one of the most effective natural protections against breast cancer”.⁴⁵ The connection between childlessness and breast cancer has been known since at least 1842, when a higher incidence of breast cancer was observed among nuns than in other women.⁴⁶ Planned Parenthood agrees: “It is known that having a full-term pregnancy early in a woman’s childbearing years is protective against breast cancer”.⁴⁷

The reason a full-term pregnancy makes breast cancer less likely is that pregnancy changes the physiology of the breast. Early in pregnancy, estrogen stimulates the growth of immature stem-cell breast tissue—growth that increases in the second trimester. At 20 weeks’ gestation, the body produces a hormonal signal that causes the immature stem-cell breast tissue to begin to develop the capacity to make milk. By 32 weeks’ gestation, roughly half of the breast tissue can make milk; and that tissue is much less susceptible to cancerous changes. By full term, over 90% of the breast tissue is fully genetically mature and can make milk, and thus is no longer susceptible to cancerous changes.⁴⁸

As a result, a woman’s risk of breast cancer rises if she has never brought a pregnancy to term and then loses the pregnancy before 32 weeks—whether the cause is a preterm birth, a second trimester miscarriage, or an induced abortion.⁴⁹

In short, inducing abortion deprives a woman of the risk-reducing effects of a full-term pregnancy. She will either: (a) remain childless, thus losing the dramatic risk-reduction of a full-term pregnancy; or (b) have one fewer full-term pregnancy than she otherwise would, losing another 10% risk reduction. No matter what, inducing abortion will postpone a full-term pregnancy, thus raising her risk by 5% per year until she carries a pregnancy to term. Meanwhile, the abortion also will increase her risk for a preterm birth, which will double her breast-cancer risk.⁵⁰

3.4. Published, peer-reviewed studies increasingly show that later-term abortion raises the risk of depression, drug abuse, and suicide

Increasingly, research published in leading journals also shows that abortion is tied to an increased risk of psychological harm, including anxiety, depression, substance abuse, thoughts of suicide, and suicide.

⁴⁵ Sibgat Choudhury, et al., Molecular Profiling of Human Mammary Gland Links Breast Cancer Risk to a p27+ Cell Population with Progenitor Characteristics, 13(1) Cell Stem Cell 117, 2 (2013).

⁴⁶ See Christopher I. Li, ed., Breast Cancer Epidemiology 120 (2010) (collecting 18th, 19th, and early 20th-century studies).

⁴⁷ Planned Parenthood, Myths About Abortion and Breast Cancer (2013).

⁴⁸ See Jose Russo, et al., Full-term Pregnancy Induces a Specific Genomic Signature in the Human Breast, 17(1) Cancer Epidemiology, Biomarkers and Prevention 51 (Jan. 2008); I. Verlinden, et al., Parity-Induced Changes in Global Gene Expression in the Human Mammary Gland, 14(2) European J. Cancer Prevention 129 (2005).

⁴⁹ See L.J. Vatten, et al., Pregnancy Related Protection Against Breast Cancer Depends on Length of Gestation, 87 British J. Cancer 289 (2002); M. Melbye, et al., Preterm Delivery and Risk of Breast Cancer, 80 British J. Cancer 609 (1999).

⁵⁰ See C.C. Hsieh, et al., Delivery of Premature Newborns and Maternal Breast Cancer Risk, 353 The Lancet 1239 (1999).

At least 53 published studies show abortion associated with elevated mental-health risk. For instance, an analysis of data for a nationally representative cohort of 8,005 women found abortion consistently tied to a 45% increased risk of mental-health disorder.⁵¹ A Finnish study of suicide after induced abortion found that, despite changes in medical care to address the issue, women who had an abortion remained at a twofold risk of suicide.⁵²

A 2011 meta-analysis of 22 published studies, which together included 877,181 participants, found that, compared to women who carried a pregnancy to term, women who had an abortion had an 81% increased risk of mental-health problems.⁵³

The analysis showed a 34% increased risk for anxiety disorders, 37% increased risk for major depression, 110% increased risk for alcohol abuse, 220% increased risk for marijuana abuse, and a 155% increased risk of suicide attempts.⁵⁴ When compared to women who carried an unplanned pregnancy to term, women who underwent an abortion still experienced a 55% increased risk of mental-health problems.⁵⁵

Similarly, a 2013 review of 30 studies examining abortion and mental-health issues, such as depression, anxiety disorders, and substance-abuse disorders, concluded that “abortion is a risk factor for subsequent mental illness when compared with childbirth”⁵⁶. When abortion was “compared with the other two possible outcomes (miscarriage or the birth of an unplanned baby),” the risk of mental-health issues was greater or similar.⁵⁷ In other words, abortion was no remedy for mental-health issues; if anything, abortion made matters worse.

It is true that a 2008 report from the American Psychiatric Association concluded that “the relative risk of mental health problems among adult women who have an unplanned pregnancy is no greater if they have an elective first-trimester abortion than if they 22 deliver that pregnancy.”⁵⁸ But to draw this conclusion, the authors had to exclude:

- the 48%–52% of women who already had a history of one or more abortions;
- the 18% of patients who were minors; the 7% of women aborting for therapeutic reasons regarding their own health or concerns about the health of the fetus; and

⁵¹ See Donald Paul Sullins, *Abortion, Substance Abuse and Mental Health in Early Adulthood: Thirteen-year Longitudinal Evidence from the United States*, 4 *Sage Open Med.* 1, 1 (2016).

⁵² See Mika Gissler, et al., *Decreased Suicide Rate after Induced Abortion, after the Current Care Guidelines in Finland 1987–2012*, 43 *Scandinavian J. Pub. Health* 99 (2015).

⁵³ See Priscilla K. Coleman, *Abortion and Mental Health: Quantitative Synthesis and Analysis of Research Published 1995–2009*, 199 *British J. Psychiatry* 180, 180 (2011).

⁵⁴ *Id.* at 182.

⁵⁵ *Id.*

⁵⁶ Carlo Valerio Bellieni, et al., *Abortion and Subsequent Mental Health: Review of the Literature*, 67 *Psychiatry and Clinical Neurosciences* 301, 307 (2013).

⁵⁷ *Id.*

⁵⁸ *Am. Psychiatric Ass’n, Mental Health and Abortion* 1, 90 (2008).

- the 11%–64% of women whose pregnancies were wanted or planned, or for which the women had developed an attachment.⁵⁹

In short, the authors chose women least likely to suffer from mental-health issues, thus skewing the results of their report. It thus sheds no light on this case.

Moreover, over a decade's-worth of studies since the 2008 report has led to "the consensus of expert opinion" that: (a) "a history of abortion is consistently associated with elevated rates of mental illness compared to women without a history of abortion"; and (b) "the abortion experience can directly contribute to mental health problems in some women".⁶⁰ A 2018 literature review found the "association between abortion and higher rates of anxiety, depression, substance use, traumatic symptoms, sleep disorders, and other negative outcomes is statistically significant in most analyses".⁶¹ And "the minority of analyses that do not show statistically significant higher rates of negative outcomes do not contradict those that do".⁶²

Mental-health issues are especially common after abortions later in pregnancy. A 12-month post-abortion study of 854 women in Sweden found that 37.5% of women who underwent second-trimester abortions suffered extreme post-abortion emotional problems.⁶³ Likewise, a 2018 study found that women who underwent a later-term abortion were more likely to suffer from psychological distress than women undergoing earlier procedures.⁶⁴

Similarly, a comparative analysis of women who had a first-trimester abortion with those who had a second- or third-trimester abortion found that 52% of the early abortion group and 67% of the late-term abortion group met the criteria for post-traumatic stress disorder.⁶⁵

Later abortions were linked to persistent, recurrent, and distressing memories, as well as hyper-reactivity to traumatic stimuli.⁶⁶ Second-trimester abortion was also associated with a greater likelihood of disturbing dreams, emotional numbness, and trouble falling or staying asleep.⁶⁷ In sum, a rich literature shows that later-term abortion threatens maternal health. The Legislature thus acted rationally in restricting abortion after 12

⁵⁹ David C. Reardon, *The Abortion and Mental Health Controversy: A Comprehensive Literature Review of Common Ground Agreements, Disagreements, Actionable Recommendations, and Research Opportunities*, 6 *SAGE Open Med.* 1, 8–9 (2018).

⁶⁰ Reardon, 6 *SAGE Open Med.* at 8. Thus, it is no answer to say that some studies have failed to link abortion and mental-health issues.

⁶¹ *Id.* at 6.

⁶² *Id.*

⁶³ See Hanna Söderberg, et al., *Emotional Distress Following Induced Abortion. A Study of its Incidence and Determinants Among Abortees in Malmö, Sweden*, 79 *European J. Obstet. and Gyn. and Reproductive Biology* 173 (1998).

⁶⁴ See Sameera Kotta, et al., *A Cross-sectional Study of the Psychosocial Problems Following Abortion*, 60 *Indian J. Psychiatry* 217 (2018).

⁶⁵ See Priscilla K. Coleman, et al., *Late-term Elective Abortion and Susceptibility to Posttraumatic Stress Symptoms*, 2010 *J. Pregnancy* (2010).

⁶⁶ *Id.*

⁶⁷ *Id.*

weeks. Nor is it relevant that later-term abortions may be convenient. “When standard medical options are available mere convenience does not suffice to displace them; and if some procedures have different risks than others, it does not follow that the State is altogether barred from imposing reasonable regulations”.⁶⁸

3.5. Fetal Pain

Pain is defined by biologists as aversive behavioral and physiological reactions in response to noxious stimuli, and does not require an intact cerebral cortex. There is significant evidence that fetuses can perceive noxious stimuli and demonstrate physiological and behavioral reactions to them—fetuses are not numb to invasive or harmful interaction.

The definition of “pain” is intensely debated among embryologists, family planning professionals, ethicists, and politicians. Certainly, the adult person's perception of pain is a complex physical and psychological interplay with long-term consequences for society. Without a developed psychology and without behavior to analyze, discussion of this type of pain is difficult in fetuses. In biology, pain is defined as “aversive behavioral and physiological reactions and (...) suspension of normal behavior in response to noxious stimuli”.⁶⁹ This definition applies to non-human organisms, whose pain is increasingly and rightly recognized publicly.

Typical human adult neurological function is not required for suffering. This broad definition of pain will be used in this section.

3.5.1. Pain with a Cerebral Cortex

In mature humans, painful stimuli are received by nociceptors in the skin and viscera; these communicate impulses via afferent sensory neurons through the spinal cord, are processed in the thalamus, and are received by the sensory cortex before a motor response is elicited. These motor responses are part of the “aversive behavioral [reactions and] suspension of normal behavior” in the definition of pain above.

Humans also have reflex arcs that operate through motor neurons in the spinal cord's dorsal root ganglia, allowing the body to cause behavioral changes without the cortex for the sake of speed.⁷⁰ Cognition, memory, and other higher functions can add to behavioral changes, but a response to pain does not require them: pain during sleep changes behavior even if consciousness adds more behavioral changes.⁷¹

⁶⁸ Gonzales, 550 U.S. at 166

⁶⁹ Sneddon LU. Pain perception in fish: indicators and endpoints ILAR journal, (2009);50(4):338-342,

⁷⁰ Fenton BW, Shih E, Zolton J. The neurobiology of pain perception in normal and persistent pain. Pain Manag. 2015;5(4):297-317.

⁷¹ Pontén M, Fust J, D'Onofrio P, et al. The pain alarm response - an example of how conscious awareness shapes pain perception. Scientific Reports. 2019;9(1):12478.

Processing pain either through the cortex or via a reflex arc is associated with hormonal responses including epinephrine (also known as adrenaline) and cortisol, which represent the “physiological reactions” included in the above definition of pain.⁷²

3.5.2. Non-Human Animals

In non-human animals, nervous systems are much simpler, with animals such as nematodes or octopi reacting to noxious stimuli with only nerves and ganglia.⁷³ Activism surrounding animal pain (termed “pain”) is evidence-based and related to vertebrates,⁷⁴ fetal vertebrates,⁷⁵ and insects⁷⁶ some of which lack functional cerebral cortices.

3.5.3. Embryology and Fetal Development

Nociceptive signaling differs throughout human development. Neonates use different structures than adults.⁷⁷ In fetuses, mature configurations for pain processing do not exist, but this does not rule out the possibility of using other structures to perceive pain as defined.⁷⁸ Fetuses process pain using subcortical and peripheral centers while they develop final structures, just as they use an immature set of functioning renal structures before mature kidneys are complete.⁷⁹

Decades of histologic research has illustrated those sensory receptors, including nociceptors, are present throughout the fetus between 10- and 14-weeks gestational age, starting as early as 7 weeks.⁸⁰ This begins in the perioral area at 7 weeks, followed by the palms and soles at 11 weeks, and the remainder of the integument by 20 weeks.⁸¹

⁷² Tennant F. The physiologic effects of pain on the endocrine system. *Pain Ther.* 2013 ;Carroll I, Mackey S, Gaeta R. The role of adrenergic receptors and pain: The good, the bad, and the unknown. *Seminars in Anesthesia, Perioperative Medicine and Pain.* 2007; 26:17-21.

⁷³ Hobert O. Specification of the nervous system. *WormBook.* 2005:1-19; Smith RP, Gitau R, Glover V, Fisk NM. Pain and stress in the human fetus. *Eur J Obstet Gynecol Reprod Biol.* 2000;92(1):161-165.

⁷⁴ Council NR. Recognition and Alleviation of Pain in Laboratory Animals. Washington, DC: The National Academies Press; 2009.; Meintjes RA. An overview of the physiology of pain for the — veterinarian. *Vet U* 2012;193(2):344-348.

⁷⁵ Peisker N, Preissel AK, Ritzmann M, Schuster T, Thomas R, Henke J. [Fetal responses to different methods of electrocution of pregnant sows]. *Berl Munch — Tierarztl Wochenschr.* 2008;121(9-10):317-328.

⁷⁶ Khuong TM, Wang Q-P, Manion J, et al. Nerve injury drives a heightened state of vigilance and neuropathic sensitization in *Drosophila*. *Science Advances.* (2019); Himmel NJ PA, Cox DN. Invertebrate Neuroscience. In *Oxford Research Encyclopedias.* Oxford: Oxford University Press (2017).

⁷⁷ Teixeira JM, Glover V, Fisk NM. Acute cerebral redistribution in response to invasive procedures in the human fetus. *Am J Obstet Gynecol.* 1999;181(4):1018-1025; an Scheltema PNA, Bakker SEM, Vandenbussche F, Ocpkes D. FETAL PAIN. *Fetal and Maternal Medicine* 2008;19(4):311-324,

⁷⁸ Anand KJ, Hickey PR. Pain and its effects in the human neonate and fetus. *N Engl J Med.* 1987;317(21):1321-1329. ; Humphrey T. Some Correlations between the Appearance of Human Fetal Reflexes and the Development of the Nervous Systemast

⁷⁹ Sadler TWLJ. *Langman's medical embryology.* Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2012,

⁸⁰ Anand KJ, Hickey PR. Pain and its effects in the human neonate and fetus. *N Engl J Med.* (1987). at 1321-1329; Derbyshire SW. Fetal pain Best Practice & Research, *Clinical Obstetrics Gynecology.* (2010).at 647-655; Brusseau R. Developmental perspectives: is the fetus conscious. *International Anesthesiology Clinics.* (2008) at.11-23.

⁸¹ Simons SH, Tibboel D. Development and maturation. *Semin Fetal Neonatal Med.* 2006;11(4):227-231.D. Pain perception; Gregory GAADB, Gregory pediatric anesthesia. 2012.

Superficial nociceptors, followed later by nociceptors in viscera, are connected by afferent fibers from the spinal column to the thalamus and from the thalamus to the subcortical plate between 16- and 20-weeks gestational age.⁸² These afferent fibers are mature enough to cause a central response to noxious stimuli as early as 16 weeks gestational age.

There is substantial evidence that a fetus can experience pain by 15 weeks, and possibly even earlier. At 15 weeks, the fetus's entire body responds to light touch with the exception of parts of the back, buttocks, and thighs.⁸³ The fetus also starts moving each finger separately, and often sucks his or her thumb. By 16 weeks, the unborn child starts grasping objects.⁸⁴

As early as 14 weeks, the fetus displays goal-directed movements. Before this age, the fetal movements were jerky and ballistic, but now the hands slow down as they approach their target. These intentional fetal movements show that the fetus is conscious and aware of his environment. Most of the slower, goal-directed movements are directed at the fetus' face. However, if the fetus has a twin, he or she will move more slowly when reaching towards the twin's face as well.⁸⁵

Furthermore, researchers who have devoted their careers to the neuroscience of pain have concluded that fetal pain is possible from a very early age. Two medical professionals, one pro-choice and one pro-life came to the following conclusion:

“Overall, the evidence, and a balanced reading of that evidence, points towards an immediate and unreflective pain experience mediated by the developing function of the nervous system from as early as 12 weeks.”⁸⁶

Similarly, European neurologists and embryologists came to a similar conclusion in 2016:

“...the fetus is exposed to rudimentary painful stimuli starting from the 15th gestation week and ... it is extremely sensitive to painful stimuli”⁸⁷

⁸²Anand KJ, Hickey PR. Pain and its effects in the human neonate and fetus. *N Engl J Med.* (1987). at 1321-1329; Glover V, Fisk NM. Fetal pain: implications for research and practice. *British Journal of Obstetrician and Gynecology.* (1999).at 881-886; Gupta R, Kilby M, Cooper G. Fetal surgery and anesthetic implications. *Continuing Education in Anaesthesia Critical Care & Pain.*(2008) . at 71-75.

⁸³ Humphrey, “Some Correlations between the Appearance of Human Fetal Reflexes and the Development of the Nervous System”; Jean-Pierre Lecanuet and Benoist Schaal, “Fetal Sensory Competencies,” *European Journal of Obstetrics & Gynecology and Reproductive Biology* 68 (September 1996): 1–23, [https://doi.org/10.1016/0301-2115\(96\)02509-2](https://doi.org/10.1016/0301-2115(96)02509-2).

⁸⁴ Humphrey, Tryphena. “Some Correlations between the Appearance of Human Fetal Reflexes and the Development of the Nervous System.” In *Progress in Brain Research*, edited by Dominick P. Purpura and J. P. Schädé, 4:93–135. *Growth and Maturation of the Brain.* Elsevier, 1964. [https://doi.org/10.1016/S0079-6123\(08\)61273-X](https://doi.org/10.1016/S0079-6123(08)61273-X).

⁸⁵Charlotte Lozier Institute, *Weeks 15 & 16 of Fetal Development*, <https://lozierinstitute.org/fetal-development/weeks-15-and-16/#:~:text=These%20intentional%20fetal%20movements%20show,the%20twin's%20face%20as%20well>.

⁸⁶ Derbyshire, Stuart WG, and John C Bockmann. “Reconsidering Fetal Pain.” *Journal of Medical Ethics* 46, no. 1 (January 2020): 3–6. <https://doi.org/10.1136/medethics-2019-105701>

⁸⁷ Sekulic, S., Gebauer-Bukurov, K., Cvijanovic, M., Kopitovic, A., Ilic, D., Petrovic, D., ... & Topalidou, A. (2016). Appearance of fetal pain could be associated with maturation of the mesodiencephalic structures. *Journal of Pain Research*, 9, 1031. <https://doi.org/10.2147/JPR.S117959>

IV. The defense of mandatory ultrasound before performing abortions

4.1. Ultrasound imaging shows truthful, scientifically accurate information relevant to the decision to undergo an abortion procedure.

4.1.1. Ultrasound imaging is a safe diagnostic medical test that shows truthful, scientifically accurate images in real time.

Ultrasound —also called ultrasound imaging, ultrasound scanning, or sonography— is a widely used safe medical test used to diagnose various medical conditions by using high frequency sound waves to produce pictures of the inside of the body.⁸⁸ Ultrasound scanners consist of a console, a video display screen, and a transducer, which is a small hand-held device that resembles a microphone and is connected to the scanner. The transducer sends out high-frequency sound waves into the body through a small amount of gel placed on a patient’s skin and listens for the returning echoes from the tissues in the body. Similar to sonar principles used by bats, boats, and submarines, ultrasounds are able to determine how far away the object is, as well as the object’s size, shape, and consistency based on the amplitude (loudness), frequency (pitch), and time it takes for the sound waves to return. During the ultrasound, an image is immediately visible on the video display screen in real time.⁸⁹

4.1.2. Ultrasound imaging has a wide range of uses, including in the contexts of pregnancy, abortion, and informed consent.

In the late 1960s, the diagnostic potential of ultrasounds became widely accepted, but “[d]espite this growing interest, the wider adoption of ultrasound imaging was slow, at least initially.”⁹⁰ It was not until the late 1970s and onward—after this Court’s decision in *Roe v. Wade*, 410 U.S. 113 (1973)— that ultrasound machines became “standardized products in a high-volume global market,” which expanded “exponentially” over the next two decades.⁹¹

Today, ultrasound has many uses in (and out of)⁹² the medical field and impacts every organ system in daily practice. For example, diagnostic ultrasounds are commonly used to examine many of the body’s internal organs, including: the heart and blood vessels, liver, gallbladder, spleen, pancreas, kidneys, bladder, uterus, ovaries, eyes, and thyroid

⁸⁸General Ultrasound, RadiologyInfo.org (last reviewed Mar. 9, 2018), <https://www.radiologyinfo.org/en/info.cfm?pg=genus>.

⁸⁹ Id.; Obstetric Ultrasound, RadiologyInfo.org (last reviewed Jan. 23, 2019), <https://www.radiologyinfo.org/en/info.cfm?pg=obstetricus>.

⁹⁰ MALCOLM NICHOLSON & JOHN E. E. FLEMING, *IMAGING AND IMAGINING THE FETUS: THE DEVELOPMENT OF OBSTETRIC ULTRASOUND* 203 (2013).

⁹¹ Id. at 232.

⁹² See, e.g., Dept. of Health, Educ., & Welfare Pub. Health Serv. Food & Drug Admin., *Ultrasound in the Food, Drug and Device Industries*, Inspection Technical Guide No. 18 (Mar. 3, 1975), <https://www.fda.gov/iceci/inspections/inspectionguides/ucm072531.htm> (describing uses of ultrasound in the food, drug, and device industries)

glands.⁹³ Ultrasound is also commonly used in the contexts of pregnancy, abortion, and informed consent.

- **Pregnancy.** During pregnancy, ultrasounds— usually called obstetric ultrasounds—provide pictures of the mother’s uterus and ovaries, as well as of the “baby (embryo or fetus)” within the mother’s uterus.⁹⁴ Most often, physicians use abdominal ultrasounds, where the transducer is placed above the pelvic bone and below the navel.⁹⁵ Sometimes a transvaginal ultrasound (where the transducer is inserted into the woman’s vagina) is required, such as early in pregnancy, when a larger patient has too much tissue blocking the sound waves, and when diagnosing a suspected ectopic pregnancy.⁹⁶

Ultrasounds are considered “medically necessary” for both the mother and fetus.⁹⁷ For a “wanted” pregnancy, women often receive several ultrasounds, including at a booking scan at around 10 to 12 weeks, at a fetal anomaly scan at around 20 weeks, and when a specific situation arises that requires further investigation, such as when there is abdominal pain.⁹⁸ Ultrasounds are performed early and often in the fertility clinic setting, especially with reproductive technology and procedures like in vitro fertilization.

Ultrasounds are used to confirm “the presence, size, location, and number of gestational sacs”;⁹⁹ evaluate the placenta, amniotic fluid, and cervix; and assess fetal growth and well-being.¹⁰⁰ Real-time ultrasounds are able to show the movement of the embryo or fetus, as well as the heartbeat. Fetal cardiac activity begins at twenty-one days of gestation and can be detected and measured by ultrasound early in the first trimester at around five and a half to six weeks.

Ultrasound is the best way to establish or confirm gestational age, since measuring the crown-rump length (CRL) in the first trimester (or up to 14 weeks gestation) is the most accurate method.¹⁰¹ The earlier in the first trimester the ultrasound is performed, the greater the accuracy in determining gestational age.¹⁰² A gestational age assessment by ultrasound in the second

⁹³ General Ultrasound, *supra* note 2.

⁹⁴ Obstetric Ultrasound, *supra* note 3.

⁹⁵ *Id.*

⁹⁶ See General Ultrasound, *supra* note 2; Comm. on Practice Bulletins—Gynecology, Tubal Ectopic Pregnancy, Practice Bulletin No. 193 (Mar. 2018) [hereinafter Tubal Ectopic Pregnancy].

⁹⁷ *Tex. Med. Providers Performing Abortion Servs. v. Lakey*, 667 F.3d 570, 579 (5th Cir. 2012)

⁹⁸ See NICOLSON & FLEMING, *supra* note 4, at 260.

⁹⁹ 1Am. Inst. of Ultrasound in Med., AIUM-ACR-ACOG-SMFMSRU Practice Parameter for the Performance of Standard Diagnostic Obstetric Ultrasound Examinations 2 (2018), <https://www.aium.org/resources/guidelines/obstetric.pdf>.

¹⁰⁰ *Id.*

¹⁰¹ Comm. on Obstetric Practice Am. Inst. of Ultrasound in Med. Soc’y for Maternal-Fetal Medicine, Methods for Estimating the Due Date, Committee Op. No. 700, at 1–2 (May 2017).

¹⁰² See *id.* at 2.

trimester is less accurate than in the first trimester because it “introduces greater variability and complexity.”

Often the last menstrual period (LMP) is used to estimate gestational age, but LMP alone is not the best obstetric estimate because it assumes a “regular” menstrual cycle, and studies report that approximately one half of women do not accurately recall their LMP.¹⁰³ Gestational age determinations made without an ultrasound examination before 22 weeks gestation are considered “suboptimally dated.”¹⁰⁴ Ultrasound is also employed to assess fetal anomalies, enabling physicians to successfully diagnose various fetal abnormalities.¹⁰⁵

- **Abortion.** Ultrasounds are used for both drug-induced (chemical) and surgical abortions. For chemical abortions, ultrasounds are used to confirm intrauterine pregnancy, to establish gestational age, and for follow up post-abortion.

Confirmation of intrauterine pregnancy before a chemical abortion is necessary because mifepristone—the standard drug given to induce a chemical abortion—is contraindicated in the case of a “confirmed or suspected ectopic pregnancy.”¹⁰⁶ “An ectopic pregnancy occurs when a fertilized egg grows outside of the uterus,” almost always in a fallopian tube.¹⁰⁷ The growing embryo can cause the tube to burst or rupture, which can lead to life-threatening internal bleeding.¹⁰⁸ Mifepristone is not effective for terminating an ectopic pregnancy and the symptoms of a rupturing ectopic pregnancy are identical to the symptoms experienced by a woman in a chemical abortion, so failure to diagnose an ectopic pregnancy prior to giving these medications can lead to a life-threatening delay in care for the woman.

Approximately one half of all women who have an ectopic pregnancy do not have any known risk factors and the ectopic pregnancy may initially feel like a typical pregnancy.

The “minimum diagnostic evaluation” necessary to determine where the embryo is developing and whether there is an ectopic pregnancy is an

¹⁰³ Id. 17 Id. at 2.

¹⁰⁴ Harrison, Michael R.; Golbus, Mitchell S.; and Filly, Roy A, *The Unborn Patient: Prenatal Diagnosis and Treatment* (1984), at 11.

¹⁰⁵ Am. Coll. of Radiology, ACR-ACOG-AIUM Practice Guideline for the Performance of Obstetrical Ultrasound 2, 5 (2007), <https://www.pedrad.org/Portals/5/Subspecialties/OB%20Ultrasound%20practice%20guidelines.pdf>; See Comm. on Practice Bulletins—Gynecology & the Soc’y of Family Planning, *Medical Management of First-Trimester Abortion*, Practice Bulletin No. 143, at 8–9 (reaffirmed 2016) [hereinafter *Medical Management*]; id. at 8 (To obtain a chemical abortion, a woman should “meet the gestational age criteria for the regimen and have no contraindications.”).

¹⁰⁶ U.S. Food & Drug Admin., *Mifeprex Highlights of Prescribing Information and Full Prescribing Information* (Mar. 2016), [hereinafter *Mifeprex Prescribing Information*], https://www.accessdata.fda.gov/drugsatfda_docs/label/2016/020687s0201bl.pdf.

¹⁰⁷ 12 FAQ: Ectopic Pregnancy, Am. Coll. of Obstetricians & Gynecologists (Feb. 2018), <https://www.acog.org/Patients/FAQs/EctopicPregnancy?IsMobileSet=false>.

¹⁰⁸ Id.

ultrasound examination, along with confirmation of pregnancy (such as by measuring hCG levels).¹⁰⁹ The diagnosis of an ectopic pregnancy can usually be eliminated by confirming an intrauterine pregnancy.¹¹⁰

Women are candidates for chemical abortion “if they meet the gestational age criteria (...) and have no contraindications.”¹¹¹ Mifepristone is only indicated for use through 70 days or 10 weeks gestation.¹¹² So an ultrasound is used to establish gestational age since CRL measurements are the most accurate method of dating.¹¹³

Ultrasound is also commonly used for follow-up examinations after chemical abortions because it provides a “definitive assessment” of whether the embryo or fetus has been “expelled.”¹¹⁴

For surgical abortions, ultrasound imaging is used to show information necessary for the procedure that cannot be seen otherwise. For example, ultrasound imaging shows the presence, location, and number of gestational sacs, as well as abnormalities of the uterus itself, such as retroversion of the uterus—which predispose to perforation if the abortion provider is unaware of it—and large fibroids—which can make identification of the uterine cavity difficult and predispose to surgical injuries and retained tissue. Since many states have gestational age limits on abortion procedures and the CRL measurement provides the most accurate gestational dating method prior to 22 weeks (by which point the vast majority of abortions occur), ultrasound is the best method to establish gestational age.¹¹⁵ As one Christian Medical Association physician explained, “assessing gestational status without ultrasound would be akin to listening to lungs without a stethoscope.”¹¹⁶

- **Informed consent.** Ultrasounds are often used in the context of informed consent. For example, during pregnancy, an ultrasound is almost always used to document and explain for purposes of informed consent why a cesarean section is recommended or necessary. For an abortion procedure, an ultrasound is necessary to obtain a true estimate of a woman’s risk.

¹⁰⁹ ²⁵ Tubal Ectopic Pregnancy, supra note 10. While measuring hCG levels is often used to confirm that the woman is pregnant, it alone is insufficient to diagnose a live pregnancy (in the case of fetal demise) or an ectopic pregnancy.

¹¹⁰ Id. In rare cases, a woman will have a heterotopic pregnancy, where one embryo is located in the uterus and another is located outside.

¹¹¹ Medical Management, supra note 21, at 6.

¹¹² Mifeprex Prescribing Information, supra note 22, at 9.

¹¹³ See Medical Management, supra note 27, at 8 (Before a chemical abortion, “gestational age should be confirmed by clinical evaluation or ultrasound examination.”).

¹¹⁴ See id. at 9. 13

¹¹⁵ See Abortion Surveillance System FAQs, Centers for Disease Control & Prevention (last reviewed Nov. 19, 2018), https://www.cdc.gov/reproductivehealth/data_stats/abortion.htm (In 2015, “91.1% of abortions were performed at ≤ 13 weeks’ gestation,” which is during the first trimester.).

¹¹⁶ Personal correspondence on file with Americans United for Life.

For example, her risks for surgical injury increase if the uterus is malformed or has fibroids and her risk of death related to abortion increases by 38% for each week of pregnancy after 8 weeks.¹¹⁷ Furthermore, ultrasounds are critically important in early pregnancy to establish whether or not the baby is alive, as nearly one out of five very early pregnancies end in miscarriage, and it is important for women to understand the true nature of whatever procedure they are undergoing. Full informed consent requires an accurate diagnosis of the gestational age of the pregnancy, the status of the fetus, and the risks involved—all of which can only be accurately obtained with an obstetrical ultrasound.

4.1.3. Ultrasound imaging shows truthful, scientifically-accurate information about a woman's pregnancy and reveals the biological reality of her unborn child.

Before ultrasound, unborn children were “hidden, enveloped within the female abdomen, away from the medical gaze.”¹¹⁸ The advent of the ultrasound in the Twentieth Century, especially real-time ultrasound imaging, “had a momentous social impact because it could visualize the fetus,” even in the first trimester.¹¹⁹ Ultrasounds “rendered the once opaque womb transparent (...) [by] letting the light of scientific observation fall on (...) the unwary fetus, [a] surprisingly active live creature, and not at all the passive parasite (...) imagined.”¹²⁰ Ian Donald, the physician who pioneered medical diagnostic ultrasounds, “believed that the ultrasound image demonstrated, unequivocally, the individuality and humanity of the fetus.”¹²¹ Even “Planned Parenthood knows that the ultrasound is an invaluable tool in revealing the personhood of unborn children.”¹²²

Ultrasound imaging can show information in a way that a mere description or generic picture of a fetus cannot convey. Our society “accords special epistemological status to the visual sense. The visual is the real—and the moving image conveys reality to us in a particularly convincing manner.”¹²³ As such, ultrasound imaging “compellingly combines” what society holds to be “the two most potent sources of authoritative knowledge in Western culture: the visual and the scientific.”¹²⁴ Thus ultrasounds possess the status as “the primary source of ‘objective’ knowledge about the fetus.”¹²⁵ Real-time ultrasounds are particularly useful as a powerful resource since real-time imaging “convey[s] the life of the fetus more vividly than a static image could.”¹²⁶ Ultrasound

¹¹⁷ Linda A. Bartlett, et al., Risk Factors for Legal Induced Abortion—Related Mortality in the United States, 103 *Obstetrics & Gynecology* 729, 731 (2004).

¹¹⁸ NICOLSON & FLEMING, *supra* note 4, at 1

¹¹⁹ *Id.*

¹²⁰ *Id.* at 257–58.

¹²¹ *Id.* at 239.

¹²² *Planned Parenthood of Ind. & Ky., Inc. v. Comm’r of Ind. State Dep’t of Health*, 888 F.3d 300, 313 n.3 (7th Cir. 2018) (Manion, J., concurring in the judgment in part and dissenting in part) (internal quotation marks omitted).

¹²³ NICOLSON & FLEMING, *supra* note 4, at 264.

¹²⁴ *Id.* at 263.

¹²⁵ *Id.* at 262.

¹²⁶ *Id.* at 242; see also *id.* at 265 (“The power of the ultrasound scanner to condition an emotional response to the fetus is . . . clearly evident.”).

imaging is personal—it gives the woman an opportunity to view her fetus and understand what is truly happening inside of her.

4.2. This Court should require that pregnant women receive an ultrasound viewing option during the informed consent process for an abortion procedure.

Before undergoing an abortion procedure, a pregnant woman must give truly informed consent. In practice, medical providers are “responsible for securing the patient’s informed consent” for a specific medical procedure, including abortion procedures.¹²⁷ “Informed consent” is defined in the American College of Obstetricians and Gynecologists Guidelines for Women’s Health Care as “the willing and uncoerced acceptance of a medical intervention by a patient after appropriate disclosure by the clinician of the nature of the intervention and its risks and benefits as well as the risks and benefits of alternatives.”¹²⁸ Under the American Medical Association Code of Medical Ethics, “[p]atients have the right to receive information and ask questions about recommended treatments so that they can make well-considered decisions about care” and a medical practitioner seeking informed consent should (among other requirements) “[p]resent relevant information accurately and sensitively” about “[t]he nature and purpose of recommended interventions.”¹²⁹

The information should be presented with language that the patient can easily understand and the patient should be able to accurately articulate the information back to the clinician. Informed consent is especially important for elective medical procedures—procedures that do not involve a medical emergency (or even a clear medical indication)—since there is time to discuss the nature of the procedure, risks, benefits, and alternatives, and ensure that the decision is not made under pressure or duress. The vast majority of abortion procedures are elective.

V. The defense of conscientious objection by physicians

Fundamental to the unique physician-patient relationship is the concept of a fiduciary relationship - the trust that the patient has in her physician, who has greater medical knowledge, to do the best for her. This trust is based on the patient’s belief that her physician will act at all times on her behalf to make professional judgements about treatments and recommendations which will, in the doctor’s best judgement, bring her the least harm. That trust stems from the patient’s belief that the physician has taken a professional vow, by all that the physician holds sacred, to first do her no harm. That vow, the Hippocratic Oath, is the basis of the doctor-patient relationship.

The fundamental tenets of Hippocratic Medicine, explicitly separate medical care from the intentional killing of human beings. It is because the health care professional has

¹²⁷ AM. COLL. OF OBSTETRICIANS & GYNECOLOGISTS, GUIDELINES FOR WOMEN’S HEALTH CARE 125 (3d ed. 2007).

¹²⁸ *Id.* at 80.

¹²⁹ AMA Code of Medical Ethics Op. 2.1.1 (Informed Consent).

bound herself or himself to do and not to do certain things prescribed or prohibited in the Hippocratic Oath, that the patient can trust that the professional will at all times act on her behalf. These tenets have formed the foundation of Western medical ethics for over 2000 years.

5.1. Hippocratic Oath

Hippocratic medical professionals do not perform certain actions which may be legal in a particular society, but which cause irreparable harm to patients. There are six tenets in the Hippocratic Oath which pertain to physician practice, tenets which set the Hippocratic physician apart from his non-Hippocratic medical colleagues:

1. To act only for the benefit of the patient. “(...) I will use those (...) regimens which will benefit my patients according to my greatest ability and judgment, and I will do no harm or injustice to them (...) Into whatever homes I go, I will enter them for the benefit of the sick (...)”
2. To never assist in suicide or practice euthanasia, nor suggest it. “(...) I will not give a lethal drug to anyone if I am asked, nor will I advise such a plan (...)”
3. To never perform an abortion. “(...) and similarly, I will not give a woman a pessary to cause an abortion (...)”
4. To refer to physicians of sufficient expertise. “(...) I will not use the knife, even upon those suffering from stones, but I will leave this to those who are trained in this craft (...)”
5. To never have sex with patients. “(...) Avoiding any voluntary act of impropriety or corruption, including the seduction of women or men, whether they are free men or slaves (...)”
6. To maintain patient confidentiality. “(...) Whatever I see or hear in the lives of my patients, whether in connection with my professional practice or not, which ought not to be spoken of outside, I will keep secret, as considering all such things to be private (...)”

These ethical limitations historically formed the boundaries of the social contract defined in the doctor patient relationship. Yet, the first three tenets of the Oath are currently being criticized by pro-abortion and pro-euthanasia legal activists, not on the basis of science or medicine, but on the basis of an opposing philosophical framework.

5.2. Two philosophical frameworks: Eudaimonism and Hedonism

Ryan and Deci¹³⁰ describe the two competing ethical frameworks currently colliding in the conflict over Hippocratic conscientious objection:

Hedonism/Utilitarianism (Consequentialism/Teleological Ethics) simplified holds that the morality of an action is contingent on the outcome. “The end justifies the means.” This view is intrinsically utilitarian, and in simplified terms holds that happiness (pleasure) is the chief end and substance of “well-being”, and maximizing happiness and minimizing suffering is the end toward which humans should strive.

¹³⁰ ON HAPPINESS AND HUMAN POTENTIALS: A Review of Research on Hedonic and Eudaimonic Well-Being Richard M. Ryan and Edward L. Deci *Annu. Rev. Psychol.* 2001. 52:141–66.

Eudaimonism (Virtue Ethics) simplified holds that acting in a way consistent with the nature of being human results in “well-being”. Happiness (pleasure) is a byproduct of right action for right reasons. Doing the right thing according to virtue and reason is the substance of “well-being”. Doing the right thing is the end toward which humans should strive.

5.3. Hippocratic vs Utilitarian Medical Ethics

The Hippocratic Oath assumes that certain actions are intrinsically wrong and that physicians have a duty to act rightly toward their patients. The oath also assumes that acting rightly toward a patient results in well-being for the patient as well as well-being for the physician. The Hippocratic Oath becomes incomprehensible when working within a Hedonic/Utilitarian philosophical framework, since a utilitarian philosophical framework denies that any actions are intrinsically right or wrong. Contrasts between Utilitarian and Hippocratic philosophy in medicine can be understood more simply by asking the question “What is a good physician?”

For a Hippocratic physician, a “good” physician acts out of sacred duty to perform those intrinsically right acts to protect and save the life and functioning of her/his patient(s) and relieve their pain and avoids doing those acts which are intrinsically wrong.

For a Utilitarian physician, the “good” is determined in relationship to who is in control. In a patient controlled medical system, a “good” physician is one who does whatever the patient asks her/him to do in order to maximize patient defined goals. In a state-controlled medical system, a “good” physician is one who acts as an agent of the state to implement state-defined health goals. Thus, in a utilitarian system, the physician becomes an “agent” of those in control.

Clearly, the crux of the disagreements between Hippocratic and Utilitarian medical philosophies rests not on scientific or medical disagreements, but rather on philosophical disagreements about the purpose of medical care. The disagreements reach a crescendo around the question: “What should a medical professional do when what a patient wants requires a medical professional to perform an action which, in the professional judgement of that health care professional, is intrinsically harmful?”

5.4. Examples of actions which were legal but heinous crimes against humanity

Proponents of both abortion and euthanasia are currently attempting to use the bludgeon of legal and professional punishment to force Hippocratic medical professionals to kill patients at the behest of the state, or of the patient. But making a procedure legal does not make the procedure right or just. In the United States, freedom of conscience, one of the foundations on which our country was founded, has led to the reformation of serious social evils; evils which were in their time, legal.

The Nazi physicians were among the best and brightest minds in the West at the time. Under the guise of their professional organizations, they performed abortions on, and killed, sterilized, tortured and experimented upon political dissidents, Jewish persons and Eastern Europeans.¹³¹ They also expelled, persecuted and ultimately hunted down and

¹³¹ Lifton RJ. “The Nazi Doctors: Medical Killing and the Psychology of Genocide.” First edition Oct 1986 ISBN-13: 978-0465049059. Available at: <https://www.amazon.com/Nazi-Doctors-MedicalPsychology-Genocide/dp/0465049052>

killed (or sent to concentration camps) physicians who opposed these acts. Hippocratic physicians in Germany at the time were systematically eliminated¹³² from the medical profession in order to implement "The Final Solution", designed to treat the "cancer" in society.¹³³ This state-sponsored murder of human beings in the concentration camps in Nazi Germany was perfectly legal, and clearly heinous.

The "execrable practice" of the "peculiar institution" of African slavery is an example of a corrosive social evil, under which humans of African descent were subjected to widespread, horrific experiments during slavery.¹³⁴ These experiments were perfectly legal, but clearly unjust. In 1932, the United States Public Health Service conducted the Tuskegee syphilis experiments, which withheld treatment from 399 black men with syphilis for forty years, in order to study the natural history of the disease.¹³⁵ This government experiment was perfectly legal, and similarly heinous. The eugenics movement of the early to mid-1900s, which resulted in the sterilization and castration of tens of thousands of Americans, was legal but also unjust.

These abuses, which we regard with revulsion, were done with the full knowledge and complicity of physicians and medical professional societies. Their legality, and whether there was any benefit to an individual or society or to medical knowledge, was and is irrelevant to the fact that these are crimes against humanity. It also follows that the killing of vulnerable human beings in the womb or at the end of life is a similar crime against humanity, regardless of its legality. All of these actions are a direct violation of the Hippocratic Oath.

5.5. No one has the authority to compel physicians to kill human beings.

Physicians and other medical professionals such as midwives, advanced practice nurses, nurses and pharmacists are not just automatons, or slaves of the state, hospitals or medical professional organizations. They are human beings who are motivated by a desire to help their fellow man with their time and intellectual talents. Part of this vocational motivation is the integrity of their conscience which causes them to act in ways to help, not harm their fellow man. To force any human being to violate their conscience- their own integrity, their own knowledge of right and wrong- is to violate their person. To force cooperation or complicity with actions which are considered evil is to enslave the one being forced to perform this action as well as debasing the one who attempts to force it. The end result will not only destroy the physician-patient relationship, but also destroy trust in the healing arts. Ultimately forcing violation of conscience will transform the profession of medicine (and health professions) into a grotesque caricature of its Hippocratic Ideal, as evidenced by the experience in Nazi Germany, when Hippocratic physicians were systematically eliminated from medical practice altogether.

This systematic elimination of Hippocratic physicians from medical practice also does violence to patient autonomy. Most patients do not want a physician who is willing to kill

¹³² Drobniowski F. "Why did Nazi doctors break their 'Hippocratic' oaths?" *J R Soc Med.* 1993 Sep; 86(9): 541-543. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1294106/?page=1>

¹³³ Lifton RJ. "The Nazi Doctors: Medical Killing and the Psychology of Genocide." First edition Oct 1986 ISBN-13: 978-0465049059. Available at: <https://www.amazon.com/Nazi-Doctors-MedicalPsychology-Genocide/dp/0465049052>

¹³⁴ Kenny SC "Power, opportunism, racism: Human experiments under American slavery" *Endeavour.* 2015 Mar;39(1):10-20. doi: 10.1016/j.endeavour.2015.02.002. Epub 2015 Mar 29.

¹³⁵ <https://www.cdc.gov/tuskegee/timeline.htm>

them or to kill their unborn child. The attempted elimination of Hippocratic medical professionals and practice is morally wrong. It does injustice to the medical profession and also to those patients who do not want to be cared for by physicians or other medical professionals whom they cannot trust - physicians who do not adhere to the Hippocratic Oath. It promotes the exploitation of the weak by the strong, and the killing of the most vulnerable members of society. For this reason, the right of conscientious objection and conscientious refusal of medical professionals to perform euthanasia or abortion must be upheld and vigorously defended. The conscience of Hippocratic providers may be the final protection against gross violations of patient's rights, autonomy and bodily integrity.

VI. Request

By virtue of all the analysis made, we request this honorable Court not to accept the claims, neither of the lawsuit of the present case, nor of the unconstitutionality lawsuits accumulated with the same, so that the LORIVE is not modified. This, taking into account all the complications for the health and life of women, the development of the fetus and the rights of conscientious objector physicians.

VII. Authorization

I authorize attorneys María de Lourdes Maldonado, with identity card No. 171001295-4 and professional registration No. 17-2001-381; Pablo Andrés Proaño, with identity card No. 172562602-0 and professional registration No 17-2020-841; Víctor Manuel Valle Villacís, with identity card No. 180537888-0 with professional registration No. 17-2022-1231, and Lina María Vera, with identity card No. 1720070521 and with professional registration No. 17-2022-1693 to file any action, injunction or request and to file any necessary appeal, as well as to participate in any hearing that may be held as a result of the present action.

VIII. Notifications

The corresponding notifications will be received by e-mails to christina@aaplog.org

signed by:

A handwritten signature in black ink, appearing to read "Christina Francis, MD". The signature is fluid and cursive, with the initials "MD" written at the end.

Christina Francis, MD

Chief Executive Officer

American Association of Pro-Life Obstetricians and Gynecologists

