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**Application for Admission Pro Hac Vice Forthcoming*

MONTANA THIRTEENTH JUDICIAL DISTRICT COURT
YELLOWSTONE COUNTY

PLANNED PARENTHOOD OF MONTANA and JOEY BANKS, M.D., on behalf of themselves and their patients, Plaintiffs, v. STATE OF MONTANA, by and through AUSTIN KNUDSEN, in his official capacity as Attorney General, Defendants.	DV-21-00999 Hon. Gregory R. Todd **DECLARATION OF ROBIN PIERUCCI, M.D., M.A., FAAP, IN OPPOSITION TO THE MOTION FOR PRELIMINARY INJUNCTION**

BASIS FOR MY OPINIONS

1. I have been asked by the Defendants in this matter to offer my professional opinion regarding the medical implications raised by the claims pressed by Plaintiffs Planned Parenthood and Dr. Joey Banks against the state of Montana. I have reviewed the reports of Plaintiffs' experts. The opinions I express herein are based upon my medical education, training, research, and over 25 years of clinical experience as a neonatologist and bioethicist, as well as my familiarity with the medical and bioethics literature. These opinions are my own and do not represent those of the institutions with which I am affiliated.

PROFESSIONAL BACKGROUND AND EXPERIENCE

2. I received my M.D. degree from Rush Medical College. I completed my residency training in pediatrics at the Children's Hospital of WI, Milwaukee in 1997 as well as my neonatal fellowship in 2000. I received my MA in bioethics in 2000 from the Medical College of Wisconsin. My master's thesis examined use of neonatal palliative care. I am a clinical assistant professor at Western Michigan University Homer-Stryker Medical school. I have maintained board certification in both pediatrics and neonatology.

3. I am currently the Medical Director of a 50-bed level three NICU and full-time clinical neonatologist at Bronson Children's Hospital in Kalamazoo, MI. I have been a practicing neonatologist here for the past 21 years and have been the medical director since 2007. I have been actively involved in our perinatal palliative care program as well as leading multiple performance improvement projects

including treatment for opiate exposed neonates and reducing bronchopulmonary dysplasia through increased use of CPAP.

4. In my work as a neonatologist with a background in medical ethics, I frequently am called upon to participate in neonatal consultations due to risk of birth at the edge of viability or potentially life limiting fetal diagnoses. I have cared for infants born as early as 22 weeks gestation.

5. For a complete listing of my professional background, experience, research, responsibilities, and publications, please see my Curriculum Vitae attached as Exhibit A.

SUMMARY OF OPINIONS

6. In my professional opinion, informed by current research and ongoing practice in neonatology, is that the edge of viability has moved to 22-23 weeks from 24-25 weeks. This is due to the increasing successfulness of both survival and survival with decreasing long term sequalae. Additionally, making decisions regarding resuscitation using only gestational age is deeply problematic and risks abandoning infants who can survive.

7. Fetal pain occurs well below 20 weeks gestation. This has been demonstrated through measurable clinical and hormonal evidence. Though previous generations of physicians stated that babies were not pain-capable, medical practice and the standard of care has changed. Informed by the research, anesthesiologists now intentionally treat infant's pain during neonatal and fetal

surgeries, and neonatologists treat pain in all of their patients, including the most immature 21- or 22-week preemie.

8. Additionally, studies show that use of perinatal palliative care has benefited babies and their families. Infants at risk of life-limiting diagnoses do not have to be destroyed during the pregnancy. They are (pain-capable) human beings and should be treated humanely.

OPINIONS

9. In her declaration, Dr McNichols claimed that "it is commonly accepted in the field of OB/GYNE that a normally developing fetus will not attain viability—i.e. will not have a reasonable chance of survival outside the womb ... until approximately 24 weeks." Given current research and clinical practice, this statement is false.

10. One reason this statement is false is because basing the decision to resuscitate an infant solely on gestational age is subjective. In 2008, Tyson et al and the Neonatal Research Network noted that,

> "In most centers, intensive care is provided selectively on the basis of specific gestational-age thresholds. Such care is likely to be routinely administered at 25 weeks' gestation but may be provided only with parental agreement at 23 to 24 weeks, and only 'comfort care' may be given at 22 weeks. The evidence base providing support for these decisions is limited, and the measurement error in assessing pregnancy length may exceed the 1-to-2-week difference in gestational age that often prompts different treatment decisions."[1]

11. To improve the ability to predict survival, this study found that "four factors in addition to gestational age: sex, exposure or nonexposure to antenatal

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[1] Tyson, *et al.* "Intensive Care for Extreme Prematurity—Moving Beyond Gestational Age" 1672-1681 (NEJM 358,16 (2008), https://www.nejm.org/doi/full/10.1056/nejmoa073059.

corticosteroids, whether single or multiple birth, and birth weight"[2] significantly impacted the prognosis. By combining these independent variables, the estimation of "the likelihood of death or adverse developmental outcomes among different risk groups was more accurately estimated with the use of gestational age alone."[3]

12. The ramification of this 4,446-patient multi-hospital study was the promotion of "treatment decisions that are less arbitrary, more individualized, more transparent, and better justified than decisions based solely on gestational-age thresholds.[4]

13. By 2014, in a joint workshop attended by obstetricians, maternal fetal medicine specialists and neonatologists, it was noted that resuscitation at 22-23 weeks had become not only more common, but it was also increasingly successful.[5] Yet, because of the "majority of live-born [22-23 gestation infants] will not survive" they did not recommend resuscitation at 22 weeks "unless considered potentially viable based on individual circumstances" [table 3].[6] Since 2014, survival at 22 weeks has changed.

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[2] Ibid.

[3] Ibid.

[4] Ibid.

[5] Raju, *et al.*, "Periviable Birth: Executive Summary of a Joint Workshop by the Eunice Kennedy Shriver National Institute of Child Health and Human Development, Society for Maternal-Fetal Medicine, American Academy of Pediatrics, and American College of Obstetricians and Gynecologists." 34, *Journal of Perinatology*, Pg 336. , (2014).

[6] Ibid p 337.

14.In 2015, the American Academy of Pediatrics admitted that "outcomes of infants delivered at 22 to 24 weeks of gestation vary significantly from center to center" and that "decision-making regarding the delivery room management be individualized and family centered."[7] Meanwhile increasing numbers of NICU's began work on small baby units, specialized places or procedures within the NICU to care for infants born below 24 weeks gestation with improving outcomes for the smallest/most premature of babies (Nelin, CHOP). By 2019, at Iowa, "survival to hospital discharge of those surviving to NICU admission was 78% at 22-23 weeks".[8] A priori "comfort care" without offering resuscitation to infant born at less than 24 weeks is *not* the standard of care.

15. Confirming the improvement in care of infants born at less than 24 weeks gestation, the Neonatal Research Network combined forces with the Vermont Oxford Network (an international consortium of "1400 centers collaborating to improve neonatal care ... with data driven quality improvement and research")[9], and published an updated assessment of their "extremely preterm birth outcome model for most extremely preterm infants in the United States."[10]

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[7] Cummings, Committee on Fetus and Newborn. "Antenatal Counseling Regarding Resuscitation and Intensive Care Before 25 Weeks of Gestation," Pediatrics 136(3), p. 592 (2015).

[8] Watkins, P.L., *et al.*. "Outcomes at 18 to 22 Months of Corrected Age for Infants Born at 22 to 25 Weeks of Gestation in a Center Practicing Active Management". J Pediatrics, pp. 1-7 2019.

[9] public.vtoxford.org

[10] Rysavy, Matthew A., *et al.* "Assessment of an Updated Neonatal Research Network Extremely Preterm Birth Outcome Model in the Vermont Oxford Network." *JAMA Pediatrics*, 174: 5 p. 1 (2020).

16. Findings included an overall improvement in survival and that the "birth hospital contributed equally as much to prediction of survival as gestational age."[11] This is an important finding, because there was a large variation noted in hospital outcomes. In fact, this variation between hospital outcomes had been noted before. Rsavy *et al* found that "center variability in the provision of treatment at 22 weeks of gestation accounts of 78% of the variation in survival".[12] Backes *et al* published, a study that compared the outcomes between a hospital that offered resuscitation to all infants born at 22 weeks gestation (a comprehensive approach) compared to a hospital that had a selective approach. Interestingly, "even when mother-infant dyads were provided proactive care at the selective center, survival was lower than infants provided proactive care at the comprehensive center.[13]

17. A consistent approach to infants born at lower ages seems to improve their outcomes. In an editorial by Janvier, Prentice, and Lantos, they state,

> "We know that the there is tremendous variation in the provision of intensive care for babies born at 22-25 weeks gestation and in their survival rates .... Some parents realize after their child's death that they were ill informed and that their child, who was not offered intensive care, could have survived."[14] If

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[11] Ibid at 1.

[12] Rysavy Matthew A., *et al*, "Between-Hospital Variation in Treatment and Outcomes in Extremely Preterm Infants." *NEJM*, 372, pp. 1801-11.

[13] Backes, C.H.,*et al.*, "Outcomes following a comprehensive versus a selective approach for infants for at 22 weeks gestation," J of Perinatol, 39, pp. 39-47 (2019).

[14] Janvier, A., et al., "Blowing the Whistle: moral distress and advocacy for preterm infants and their families" *Acta Paed,* 106, pp. 853-854 (2017).

the consistent approach is a gestational age guided hospital policy to not resuscitate any infants who are <24 weeks, then zero will survive.

Fetal Pain

18. Four decades ago, the medical consensus was that babies in utero do not feel pain. Driven by the data, that consensus changed. One of the studies that greatly impacted this change in medical practice was Dr Anand et al's 1992 *NEJM* publication of their randomized trial comparing the outcomes of four to ten day old neonates with congenital heart defects that were eligible for surgical repair.[15] In the operating room, one group received "lighter anesthesia", the other group "deep anesthesia." When the babies' pain was effectively treated, their outcomes were considerably improved, including statistically significant differences in intra-operative and post-operative markers of stress (stress hormones, hyperglycemia, lactic acidemia), and fewer postoperative deaths (4 of the 15 neonates died prior to discharge in the light anesthesia group, none of the 30 in the deep anesthesia group died prior to discharge home. This lower rate of mortality "was significantly lower than hospital mortality in other neonates undergoing cardiac surgery with bypass and circulatory arrest during the study period").[16] Because of how compelling these results were, this study could not ethically be repeated. Driven by the data, medical

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[15] Anand, K.J., , Hickey, P.R., Halothane–morphine compared with high-dose sufentanil for anesthesia and postoperative analgesia in neonatal cardiac surgery, NEJM326, pp. 1–9 (1992).

[16] Ibid

practice in neonatology, pediatrics, and anesthesiology changed; today, babies who are term, premature, or operated on in utero, receive appropriate anesthesia.[17]

19. The 1992 cardiac surgery study was done with *term* infants, by 2016, the American Academy of Pediatrics' (AAP) revised policy, *Prevention and Management of Procedural Pain in the Neonate: An Update,* specifically states that even premature babies' pain should be treated, minimized, and/or prevented, "not only because it is ethical but also because repeated painful exposures have the potential for deleterious consequences."[18] The consequences of experiencing pain include: "physiologic instability, altered brain development, and abnormal neurodevelopment, somatosensory, and stress response systems, which can persist into childhood."[19]

20. Studies done with premature babies can be extrapolated to how they react to painful stimulation while in-utero. Because premature babies are now being successfully resuscitated at 22-23 weeks gestation (with a number of cases even

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[17] Pierucci, R., Fetal pain: the science behind why it is the medical standard of care. *The Linacre Quarterly,* 87(3), pp. 311-316 (2020)..

[18] Committee on Fetus and Newborn and Section on Anesthesiology and Pain Medicine, Prevention and management of procedural pain in the neonate: An update, *Pediatrics,* 137(2), p.1 (2016).

[19] Ibid

lower[20,21]), many premature babies cared for in today's NICUs have predominantly *fetal* physiology. "During the fetal period (ninth week to birth), differentiation and growth of the tissues and organs formed during the embryonic period occur."[22]

21. Despite premature babies' fetal physiology, their daily witnessed reactions to noxious stimulation, as well as the amelioration of these symptoms with treatment, some still question whether "fetal pain perception can be assessed by reference to the prematurely born infant."[23] This concern is supported by studies that demonstrated a group of chemicals within the intrauterine environment called intrauterine endocrine neuroinhibitors (specifically adenosine, pregnanolone and prostaglandin D2) that may anesthetize the infant.[24,25] This concern was cited by the Royal College of Obstetricians and Gynaecologists in 2010 to rule against fetal

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[20] Elassar, Alaa. "The World's Most Premature Baby Has Celebrated His First Birthday after Beating 0% Odds of Surviving." *CNN* (June 19, 2021), , www.cnn.com/2021/06/19/us/worlds-most-premature-baby-birthday-trnd/index.html.

[21] TodayShow. "Born at 21 Weeks, This May Be the Most Premature Surviving Baby." *TODAY.com*, 21 Nov. 2018, www.today.com/health/born-21-weeks-she-may-be-most-premature-surviving-baby-t118610.

[22] Moore, KL and Persaud TVN. The Developing Human: Clinically Oriented Embryology. 8th ed. Sanders Philadelphia: 2008: 2

[23] Mellor, D.J., et al., The importance of 'awareness' for understanding fetal pain. Brain Res. Rev.; 49(3), pp. 455-462 (2005), https://doi.org/10.1016/j.brainresrev.2005.01.006.

[24] Ibid

[25] Royal College of Obstetricians and Gyneacologists. *Fetal awareness review of research and recommendations for practice.* London: RCOG Press (2010).

pain capability, but their primary evidence is an extrapolation of the chemical environment of fetal sleep.[26]

22. A more recent review of neuroinhibitory studies cited three different publications that found the "neural inhibition effects of both adenosine and PGD2 have been recorded only when they are artificially administered in particular into the brain of test animals and the effect was not analgesic but just sedative."[27]

23. Even if neuroinhibitors do contribute to keeping a fetus predominantly asleep, the chemicals' effect is insufficient to keep them asleep when external stimuli are applied.[28] Another publication noted that "although mild noxious stimuli do not seem to be perceived during such fetal sleep, major tissue injury occurring as a result of fetal trauma or fetal surgical intervention generates behavioral and physiologic arousal."[29] Thus, the make-up of the in-utero chemical milieu may participate in providing the ideal place for immature human beings to develop, but this environment is not equipped to blockade the effects of external painful stimuli.

24. In-vivo human fetal studies provide additional evidence that in the intra-uterine environment, noxious stimulation is not blocked. Gitau et al studied the

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[26] Platt MW. Fetal awareness and fetal pain: The emperor's new clothes. Arch. Dis. Child Fetal Neonatal Ed., 96(4) (2011).

[27] Bellieni C.V., *et al.*, Is fetal analgesia necessary during prenatal surgery? J. Maternal-Fetal Neonatal Med.,;31(9), p.1242. (2018).
Brusseau R. Developmental perspectives: Is the Fetus Conscious? Int. Anesthesiol. Clin., 46(3), pp. 11-23 (2008).

[28] ibid.

[29] Brusseau R. Developmental perspectives: Is the Fetus Conscious? Int. Anesthesiol. Clinic,, 46(3), pp.11-23 (2008)

responses of human fetuses who required in-utero blood transfusions. The stress hormone levels when their abdomens were accessed to reach the intrahepatic vein (IHV) for their in-utero blood transfusion, were compared to the stress hormone levels of those who received their transfusion through the placental cord insertion site (PCI), a site that is without innervation.[30] Statistically significant increases in stress hormone levels were documented in the group whose intrahepatic vein was accessed through their abdomen, with "fetal B-endorphin responses apparent from eighteen weeks gestation and fetal cortisol responses apparent from twenty weeks gestation ... consistent with the maturation of the fetal pituitary before the fetal adrenal [gland]."[31] (See figure below).

[30] Gitau R, , *et al*, Fetal hypothalamic-pituitary-adrenal stress responses to invasive procedures are independent of maternal responses, *J. Clinic. Endocrinol & Metab.*, 86(1), pp.104–9 (2001).https://doi.org/10.1210/jc.86.1.104.

[31] ibid

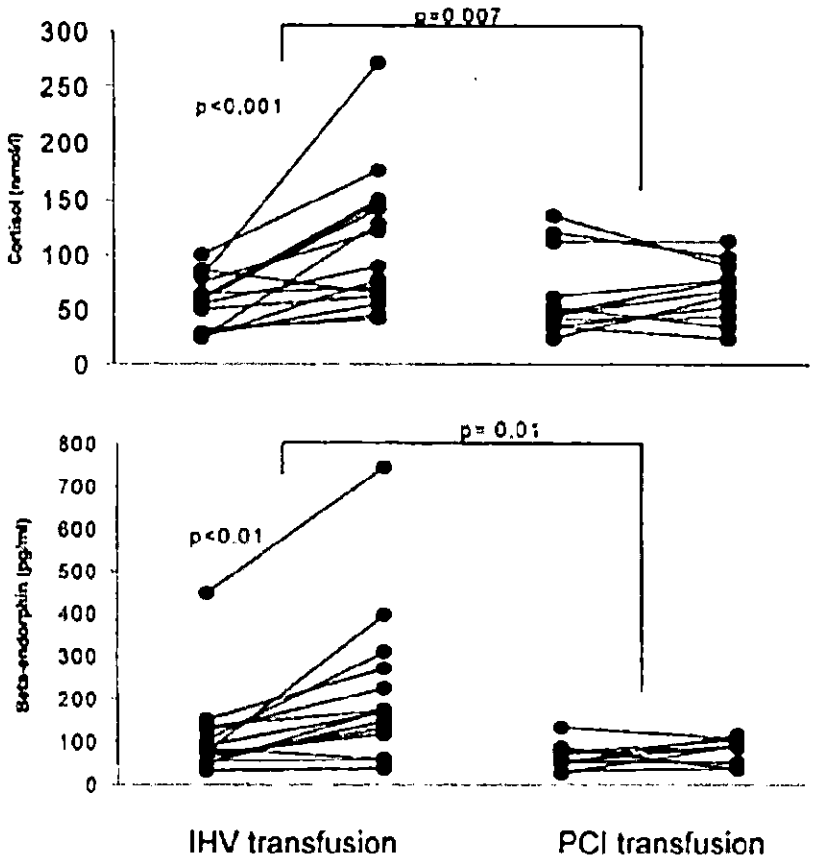

FIG. 3. Fetal plasma cortisol and β-endorphin concentrations befor and after transfusion at the IHV and the PCI.

25. Importantly, by simultaneously measuring the fetal and the maternal hormone levels (which stayed level between groups) they also showed that the fetal elevations were not due to increased maternal stress hormone levels.[32] Thus, while in the normal intrauterine chemical environment, noxious stimulation caused measurable increases in stress hormones, echoing what has been documented in premature and term infants who have already been born. This consistent evidence

[32] ibid

of stress responses has changed pediatricians', neonatologists', and anesthesiologists' medical practice; noxious stimulation is avoided or treated.

26. Despite the cited evidence and current medical practice of neonatologists and anesthesiologists, Dr. McNicholas seems to still adhere to the now outdated ideas published by Lee et al. This group published a literature review in 2005, that concluded "fetal perception of pain is unlikely before the third trimester."[33] This claim was based on two presumptions: 1) pain perception requires anatomically mature connections from the peripheral pain receptors to the cerebral cortex and 2) pain requires conscious awareness. Neither points are true.

27. The idea that pain requires conscious awareness is championed by the International Association for the Study of Pain (IASP). Their philosophy is that pain must have the two components: "an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage."[34]

28. In case one is not clear that the IASP has just removed all immature human beings from being pain capable as well as many elderly and people with neurologic injury, the IASP clarifies, "Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons."[35]

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[33] Lee S.J., , *et al.*, Fetal Pain, JAMA; 2 94(8), pp. 947-954 (2005), https://doi.org/10.1001/jama.294.8.947.

[34] Raja S.N., , *et al.*, The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Pain,. 161(9), pp. 1976-1982 (September2020). doi:10.1097/j.pain.0000000000001939.

[35] Ibid

29. This separation of noxious stimuli induced physical responses from emotional, experiential awareness is important to Merskey, the chair of the IASP Subcommittee on Taxonomy. He believes "pain [is] a psychological concept and not a physical measure and that the experience of pain [has] to be distinguished from noxious stimulation."[36] His previously published idea is that pain is a "psychic event and not a physical event" because "the physical side is the physiologic mechanism of impulses and signaling—the sense data. The pain is not these sense data but the perceptual experience of discomfort."[37]

30. According to Merskey and the IASP, how pain makes us consciously feel is indicative of whether or not pain exists, anatomical reception via neurologic messaging and resultant physiologic reaction(s) such as release of stress hormones or changes in heart in response to painful stimulation are irrelevant. Ask a parent how irrelevant the cry of their baby is in response to being hurt, even though baby is not sufficiently conscious to remember or describe what happened.

31. Dismissing neurologic impulses activated by noxious stimuli and their subsequent multi-organ stress responses as immaterial to the presence of pain is problematic for several reasons. For one, as proven by Johnston & Steven's research, premature babies who were repeatedly poked for heel sticks at a time when they lacked a mature conscious awareness or ability to verbally recall and complain about previous pokes, had heightened responses to this painful procedure

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[36] ibid

[37] ibid

compared to unexposed premature babies.[38] Yet, "the earlier born infants had higher heart rates and lower oxygen saturations than the newly born infants, before as well as during, the procedure."[39]

32. Taddio et al also found that newborns "exposed to repeated heel lances in the first 24 to 36 hours of life learned to anticipate pain and exhibited more intense pain responses during venipuncture than normal infants"[40] Both of these studies demonstrate what Van de Velde & De Buck called a "procedural memory."[41] From their 2012 literature review, they concluded that "although early painful memories are not accessible to conscious recall, they may be encoded in 'procedural memory' and lead to abnormal behavioral patterns or altered sensory processing in later life."[42]

33. The belief that pain exists only when there is an adult-level of conscious awareness is simply wrong. No one performs abdominal surgery without anesthesia on patients with Alzheimer's Disease because they are not neurologically intact.

34. Interestingly, Professors Peter Singer, the lead IASP's ethical consultant is known for taking a dim view of the immature. He previously published, "the

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[38] Johnston CC, Stevens BJ. Experience in a neonatal intensive care unit affects pain response. Pediatrics;98(5), pp. 925-930 (1996).

[39] ibid

[40] Taddio A., Conditioning and hyperalgesia in newborns exposed to repeated heel lances. JAMA.;*288*(7), 857 (2002),doi:10.1001/jama.288.7.857.

[41] Van de Velde, M. De Buck, F., Fetal and maternal analgesia/anesthesia for fetal Procedures. Fetal Diagn. Ther.; 31(4), pp. 201-209 (2012), doi:10.1159/000338146.

[42] ibid

potential of a fetus to become a rational, self-conscious being, cannot count against killing it at a stage when it lacks these characteristics."[43] It is not surprising that "Singer and colleagues proposed" that the IASP definition state "to be in pain is to have a particular conscious experience ...."[44]

35. The ability to describe an experience, whether it occurred as an adult or earlier in life when neurologically immature, does not determine whether or not something occurred. Because no one can prove whether or not the subjective feeling of pain is an integral part of intrauterine life, the use of nociception (which refers to the anatomical and physiological responses to hurtful stimuli), is a better expression.[45] Nociceptive responses are consequential because they result in measurable, physiologic changes that affect the baby. Therefore, broadening this definition to acknowledge the ultimately damaging effects of noxious stimulation in the gestationally and developmentally immature infant, would provide greater accuracy.

36. The cerebral cortex is the anatomical location for humans having conscious awareness, however the peripheral sensory nerves are not completely connected to it until around 24 weeks gestation. Thus, when Lee et al published their paper, 24 weeks gestation was the earliest fetal pain was thought possible.

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[43] Singer, P. Practical ethics. Cambridge: Cambridge University Press; 1993: p. 82.

[44] Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Pain, . 161(9), pp.1976-1982 (2020). doi:10.1097/j.pain.0000000000001939.

[45] Rokyta R., Fetal pain, Neuroendocrinol Lett., 29(6), pp. 807-814 (2008). https://www.ncbi.nlm.nih.gov/pubmed/19112406/

37. However, there is now evidence that pain does not require the cortex, *sub* cortical structures are sufficient.[46,47,48,49] These subcortical structures include the brain stem, basal ganglia, amygdala, and the hypothalamic-pituitary axis, all of which may be capable of processing pain-instigated impulses from noxious stimuli several weeks prior to the development of thalamic-cortical connections.[50,51,52]

38. Needing these connections to the cortex for the existence of pain is also refuted by clinical evidence from adults that suggests neither ablation nor stimulation of the primary somatosensory cortex alters pain perception.[53]

39. The necessity of cortical connectedness is also disproved by infants who are either missing or have minimal cortex (anencephalic and hydranencephalic babies) and were exposed to both painful and consoling stimuli; they responded

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[46] Brusseau R. Developmental perspectives: Is the Fetus Conscious? Int. Anesthesiol. Clin.,; 46(3), pp. 11-23 (2008).

[47] Derbyshire S.W., Bockmann, J.C., Reconsidering fetal pain. J. Med. Ethics., 46(1), p. 3 (2020). https://doi.org/10.1136/medethics-2019-105701.

[48] Lowery C.L., *et al.* Neurodevelopmental Changes of Fetal Pain. Seminars in Perinatology, 31(5), p. 276 (2007). doi:10.1053/j.semperi.2007.07.004.

[49] Vanhatalo S, Nieuwenhuizen, O.V., Fetal pain? Brain Dev., 22(3), pp.145-150 (2000), doi:10.1016/s0387-7604(00)00089-9.

[50] Brusseau R., Developmental perspectives: Is the Fetus Conscious? Int. Anesthesiol. Clin., 46(3), pp. 11-23 (2008).

[51] Derbyshire, S.W., Bockmann, J.C., Reconsidering fetal pain, *J. Med. Ethics.*, 46(1), p. 3 (2020), https://doi.org/10.1136/medethics-2019-105701.

[52] Sekulic, S., *et al.*, Appearance of Fetal Pain Could Be Associated with Maturation of the Mesodiencephalic Structures, *Journal of Pain Research*, 9, pp.1031-1037 (2016), doi:10.2147/jpr.s117959.

[53] Brusseau R., Developmental perspectives: Is the Fetus Conscious? Int. Anesthesiol. Clin., 46(3), pp. 11-23 (2008).

appropriately.[54,55] Taken together, the findings of these studies suggest that definitions of pain which hinge on possessing a mature conscious capacity requiring cortical functioning and connectedness, are outdated.

40. Sadly, Dr. McNicholas names hyranencephaly as one of the reasons abortions are critical. Not only can these babies appreciate pain, there is no reason to think infants or the other syndromes she names, Trisomy 13, polycystic kidneys, or VATER Syndrome, render the baby incapable of feeling pain. In fact these syndromes might be life limiting, but they are not necessarily quickly lethal. These babies' first diagnosis is, "it's a baby." An additional fetal diagnosis does not negate the first one. They are still human beings. Because they are human beings, their physiology means they are capable of being affected by pain.

41. Interestingly, hypersensitization may better describe how the immature nervous system reacts to noxious stimulation (especially when repetitive). Fitzgerald, who has multiple published studies on this topic summarizes the developmental complexities stating, "a lack of balance between inhibitory and excitatory supraspinal controls may mean that infants are less able to mount effective endogenous control over noxious inputs than adults."[56].

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[54] *Id.*

[55] Sekulic, S., *et al.* Appearance of Fetal Pain Could Be Associated with Maturation of the Mesodiencephalic Structures. *Journal of Pain Research*, 9, pp.1031-1037 (2016), doi:10.2147/jpr.s117959.

[56] Fitzgerald, M., Walker, S.M., Infant pain management: A developmental neurobiological approach, *Nat. Clin. Pract. Neurol.*, 5(1), pp. 35-50 (2009). doi:10.1038/ncpneuro0984

42. Hatfield further explains that there is also a "receptor field" in the spinal cord of infants that is "larger than adult fields until 42 weeks gestation, [and] then declines to adult size by 43-44 weeks gestation... This accentuates the low pain threshold of preterm infants and is thought to be associated with the increased vulnerability of excitotoxic damage in the newborn brain."[57]

43. Based on the evidence, the AAP's 2016 updated pain policy noted that this "increased excitability of nociceptive neurons in the dorsal horn of the spinal cord accentuates the infant's sensitivity to subsequent noxious and non-noxious sensory stimuli."[58] Thus, immature human beings are not only pain-capable, they have an increased sensitivity to painful stimulation which makes them more vulnerable to its effects than adults.

44. How early is responsiveness to painful stimuli possible? In their 2020 literature review, Derbyshire and Bockmann state "evidence...points towards an immediate and unreflective pain experience mediated by the developing function of the nervous system from as early as 12 weeks."[59]

45. This particular statement is remarkable for several reasons. For one, the authors admit that their views on abortion ethics are divergent and that "fetal pain has long been a contentious issue, in large part because fetal pain is often cited as a

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[57] Hatfield, L., Neonatal pain: What's age got to do with it? Surgical Neurology International.; 5(14) p. 479 (2014), doi:10.4103/2152-7806.144630.

[58] Keels, E., *et al.*, Prevention and management of procedural pain in the neonate: An update, *Pediatrics*.,137(2), p. 2 (2016), https://doi.org/10.1542/peds.2015-4271.

[59] Derbyshire, S.W., Bockmann, J.C., Reconsidering fetal pain, *J. Med. Ethics*, 46(1), p. (2020). https://doi.org/10.1136/medethics-2019-105701.

reason to restrict access to termination of pregnancy or abortion."[60] In fact Derbyshire, an abortion advocate, previously published that pain perception was dependent upon processing in the cortex cerebri.[61] However, informed by a more recent data, Derbyshire came to a different conclusion.

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[60] *Id.*

[61] Derbyshire, S.W.G., Fetal Pain? Best Practice & Research Clinical Obstetrics & Gynaecology, 24(5), pp. 647-655 (2010), doi:10.1016/j.bpobgyn.2010.02.013.

I submit this declaration pursuant to Mont. Code Ann. §§ 1-6-105 and 27-19-303, which together permit parties to present declarations for the court to consider at a preliminary injunction hearing. I hereby declare under penalty of perjury under the laws of the United States of America and the State of Montana that the foregoing is true and correct.

Dated: September 6, 2021

Robin Pierucci, M.D., M.A., FAAP

CERTIFICATE OF SERVICE

I certify a true and correct copy of the foregoing was delivered by email to the following:

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Date: September 7, 2021

Rochell Standish
ROCHELL STANDISH

EXHIBIT A

CURRICULUM VITAE

Robin Lynne Pierucci, MD, MA, FAAP

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Education

08/1981-06/1982	Indiana University Bloomington, IN
08/1986-06/1989	BA, Loyola University Chicago, IL
07/1990-06/1994	MD, Rush Medical College Chicago, IL

Postgraduate Training and Fellowship

06/1994—06/1995	Internship, Pediatrics Children's Hospital of Wisconsin Milwaukee, WI
06/1995—06/1997	Residency, Pediatrics Children's Hospital of Wisconsin Milwaukee, WI
07/1997—06/2000	Fellowship, Neonatology Children's Hospital of Wisconsin Milwaukee, WI
07/1998—06/2000	Master of Arts, Bioethics Medical College of Wisconsin Milwaukee, WI
09/2013---07/2014	National Catholic Bioethics Center National Catholic Certification Program in Health care Ethics

Specialty Boards and Certification

Board Certified	Issue Date
Pediatrics	2007 to present
Neonatology	2008 to present
Michigan License	4301076137

Faculty Appointments

08/2000—present	Neonatologist Bronson Children's Hospital Southwest Michigan Neonatology, PC
08/2000—2018	Western Michigan Medical School Kalamazoo, MI Clinical Associate Professor
06/2000 – 2018	Michigan State University Lansing, MI Clinical Associate Professor
03/2007—present	Medical Director, NICU Bronson Children's Hospital Kalamazoo, MI
08/2018--present	Homer Stryker School of Medicine, Western Michigan University Kalamazoo, MI Clinical Assistant Professor

Hospital Staff Privileges

08/2000 - present	Bronson Methodist Hospital Kalamazoo, Michigan Neonatologist Southwest Michigan Neonatology, PC

Peer Reviewed Publications

Pierucci, R. "Fetal Pain: The Science Behind Why It is the Medical Standard of Care". Linacre Quarterly, ahead of press 2020

Pierucci, R. "Treating Fetal Pain: Standard of Care for Some, But Not for All". Issues in Law and Medicine 34, no 2 (Fall 2019): 153-159.

Pierucci, R. "Rebutting Distortions of How the Sanctity of Life Doctrine Applies to the Periviable". The Linacre Quarterly 86:2-3, 2019; pg 172-175. First Published June 24, 2019 Article https://doi.org/10.1177/0024363919856819

Pierucci, R, "Gestational Age in Periviable Newborns." The National Catholic Bioethics Quarterly 14.3 (Autumn 2014): 429-439.

Brosig C, **Pierucci R**, Kopst M, Leuthner, S. "End of Life Care: The Parents Perspective." Journal of Perinatology April 19, 2007 http:www.nature.com/doifinder/10.1038/sj.jp.7211755

Pierucci R, Kirby R, Leuthner, S. "End-of-Life Care For Infants and the Effects of Palliative Care Consultations." Pediatrics. September 2001 8:3 653-659.

Pierucci, R, Leuthner, S, "Palliative Care Consultation for the Neonate". Journal of Palliative Medicine. 2001 4:1 39-47.

Pierucci R, Kirby R, Leuthner, S. "End-of-Life Care For Infants and the Effects of Palliative Care Consultations." Pediatric Research Abstract, May 2000.

Kuczewski M, **Pierucci R,** Strong C, "Ethics Committee at Work: Providing Comfort or Prolonging Death for a Baby with Dead Gut Syndrome" [Case study and commentaries]. Cambridge Quarterly of Healthcare Ethics. 1999 (8) 538-543.

Pierucci R., Leuthner S., "Hospice/Palliative Care for the Neonate." Pediatric Research. 1998 43:4, Abstract #160

March of Dimes Research Grant, Dr. Candice Fike (1999): Prostaglandin involvement in piglet pulmonary arteries.

Lectures/Presentations

Grand Rounds at Homer Stryker School of Medicine, WMU — Feb 20, 2020
"Withdrawing from the Finnegan, Changing to Eat Sleep and Console"
Kalamazoo, MI

Train the trainers conference, MICQI — Feb 10, 2020
"Withdrawing from the Finnegan, Changing to Eat Sleep and Console"
Bronson Methodist Hospital, Kalamazoo, MI

Matthew Bulfin Educational Conference 2019 AAPLOG/ACPeds — April 6, 2019
"Pain in a Preborn vs a Premature Baby"
Indianapolis, IN

Converging Roads Conference "Dignity and Disability in Medicine" — March 30, 2019
Houston, TX
"Disabled vs Mislabeled: Accompanying the Vulnerable in Utero, in the NICU, & Beyond"

Coming Together: A Conference on Addiction and Recovery — October 24, 2018
Kalamazoo, MI; Western Michigan University
"Exposure to Hope: Caring for Drug Exposed Infants"

Diocese of Kalamazoo New Evangelization Convocation — October 13, 2017
Kalamazoo, MI
"Elevating Human Dignity: The Benefit of Reuniting Science and Religion"

2017 Matthew Bulfin Educational Conference — September 30, 2017
JOINT ACPEDS/AAPLOG
Chicago, IL
"End of Life Issues at Life's Beginning"

Catholic Medical Association — September 8, 2017
Denver, CO
"End of Life Issues at Life's Beginning"

Converging Crossroads, John Paul II Foundation — August 27, 2016
Nashville, TN
"End of Life Issues at Life's Beginning"

Michigan American Association of Pediatrics
September 19, 2015
Lansing, MI
"Ripples from the NICU"

Integrates Conference — April 18, 2015
University of Illinois at Chicago
"Medical Decision Making, Who's in Charge?"

Society of Michigan Neonatology Conference — September 17, 2014
Brighton, MI
"Exposure to Hope: Caring for Drug Exposed Infants"

Nashville Guild of the CMA — September 6, 2014
Hippocratic Oath Banquet
"Cherishing a Limited Life: Perinatal Palliative Care"

Kalamazoo WRAPs 2nd Annual System of Care Conference — March 8, 2014
Fetzer Center, Western Michigan University
"Exposure to Hope, Caring for Drug Exposed Infants"

Conversations in Clinical Ethics — July 15, 2013
Bronson Methodist Hospital
"When Families are Waiting for a Miracle"

Southwest Michigan Perinatal Association — May 15, 2013
Fetzer Center, Western Michigan University
"Exposure to Hope: Caring for Drug Exposed Babies"

Catholicism and the Future of Healthcare — April 13, 2013
Pontifical John Paul the II Institute
"Opportunities for Practicing Medicine (or Hippocratic vs Hypocritical Oath)"

Pediatric Grand Rounds — February 3, 2012
Bronson Methodist Hospital
"Neonatal Ramifications of Maternal Substance Use"

Perinatal Network Conference XXVI — September 16, 2110
Fetzer Center, Western Michigan University
Multiple Gestation: Caring for Mothers and Babies

Southwestern Michigan Perinatal Association — May 19, 2010
Fetzer Center, Western Michigan University
Effects of Perinatal Substance Abuse

15th Annual North Central Neonatology Issues Conference — Jun 13-15 2003
Lake Geneva, Wisconsin
"Ethics in the NICU: Where Are We Now?"

Multi-Dimensional Neonatal Care Conference — April 25, 2002
Fetzer Center, Western Michigan University
Talking to Families: When They May Not Like You or What You Have to Tell Them

Michigan State Medical Society — March 14, 2002
Ann Arbor, Michigan
End-of-Life Care in Infants

Multi-Dimensional Neonatal Care Conference — April 21, 2001
Kalamazoo, Michigan
Perspectives of Reproductive Technology: The Ethical Debate
Presentation and Panel Discussion

National Association of Neonatal Nurses — September 29-30, 2000
San Antonio, Texas
Neonatal Hospice Care
Presentation and Discussion Group Leader

Pediatric Academic Society/American Academy of Pediatrics — May 14, 2000
Washington, DC
End-of-Life Care For Infants and the Effects of Palliative Care Consultations
Poster Presentation

Sinai Samaritan Hospital: Grand Rounds — March 10, 2000
Milwaukee, Wisconsin
Defining Palliative Care

Medical College of Wisconsin Bioethics Grand Rounds — March 8, 2000
Milwaukee, Wisconsin
Infant End-Of-Life Care

American Society for Bioethics and Humanities — October 28-31, 1999
Houston, Texas
Palliative Care for the Neonate
Poster Presentation

28th Aspen Conference on Perinatal Research — August 29-31, 1999
Aspen Colorado
Palliative Care for Infants

Wisconsin Association for Perinatal Care — April 19, 1999
End of Life Care in the Perinatal Period
Research presentation & panel discussion

Committees

NICU Perinatal Palliative Care: Bronson
July 2006—present

Ethics Committee, Bronson Hospital (co-chair)
January 2012-2013

March of Dimes (Kalamazoo, MI Chapter)
October 2008--2010

Family Centered Care Committee: Bronson Hospital
July 2006—2008

Professional Organizations

American Academy of Pediatrics
Aug 2000—present

Society of MI Neonatologists
Aug 2000—present

Catholic Medical Association
Jun 2010--- present

American College of Pediatrics
Jun 2018--- present

Teaching Activities

Homer Stryker Western School of Medicine Residents & Students July 2018 to present
Kalamazoo, Michigan
Bedside teaching/Rounds in NICU

Western Med School/Michigan State Univ Residents July 2000—2018
Kalamazoo, MI
Monthly lectures
Bedside teaching/rounds in the NICU

Biochemistry Case-Based Discussions Fall Semester 1998
Medical College of Wisconsin,
M1 class

Non-peer Reviewed Publications/Media

Cataldo, PJ, Goodwin, TM, **Pierucci, R.** "Early Induction of Labor". *Catholic Health Care Ethics: A Manual for Practitioners* 3rd ed. The National Catholic Bioethics Center, Philadelphia (2020): 14.1-14.17.

Vermont Oxford POSTER, National Meeting, Chicago, IL "Withdrawing from the Finnegan: Transitioning to Eat/Sleep/Console. September, 2019.

Robin Pierucci | National Review
https://www.nationalreview.com/author/robin-pierucci/

Neonatologist: Babies Do Feel Pain In The Womb. I've ... - The Federalist
thefederalist.com/2018/01/29/neonatologist-babies-feel-pain-womb-ive-seen/

Is Over-The-Counter Contraception For Teens A Good ... - The Federalist
thefederalist.com/2017/06/15/counter-contraception-teens-good-idea/

The Sex Talk With Teens Needs To Cover A Lot More ... - The Federalist
thefederalist.com/2017/09/28/sex-talk-teens-needs-cover-lot-birth-control/
https://www.youtube.com/watch?v=LydxcQuh1nM

Honors/Awards

Pierucci, R, "Gestational Age in Periviable Newborns." The National Catholic Bioethics Quarterly 14.3 (Autumn 2014): 429-439.
Awarded 2nd Place by: Catholic Press Association. Category: Scholarly Magazine, Best Essay Originating With a Magazine or Newsletter.

Resident/Fellow Research Day "Infant Palliative Care Consultation" 2nd place, clinical research; Fellow's division	April 15,1999
Alpha Sigma Nu National Jesuit Honor Society	May 1989
Alpha Epsilon Delta Premedical Honor Society Vice-President	1986-1989 19881989