

Initial approval: 2017 (WE, MT, LK)
Revised approval: 4/12/19 (WE)
Approved by: SCF MCH/Primary Care CBG

ALASKA NATIVE MEDICAL CENTER
STATEMENT ON MARIJUANA USE DURING PREGNANCY AND LACTATION

OBJECTIVE:

Maternal child health staff at Alaska Native Medical Center should provide current and consistent evidence-based guidance on pregnancy and breastfeeding to parents regarding marijuana and related products use.

BACKGROUND:

Pregnancy

Studies in laboratory animals show that marijuana exposure in utero may disrupt normal brain development and function through impaired cognition and may cause increased sensitivity to other drugs of abuse.^{1,2} Fetal marijuana exposure can enhance brain susceptibility to the apoptotic effects of alcohol.³ Studies have found that children with marijuana exposure in utero had lower test scores in visual problem solving, visual-motor coordination, and visual analysis than children without marijuana exposure in utero.^{4,5,6,7} Additionally, prenatal marijuana exposure is associated with decreased attention span and behavioral problems and is an independent predictor of marijuana use by age 14 years.^{8,9,10} Effects of prenatal marijuana exposure on school performance are less clear with studies showing conflicting outcomes.^{11,12,13}

Because of concerns regarding impaired neurodevelopment, women who are pregnant or contemplating pregnancy should be advised to discontinue marijuana use. Before pregnancy and in early pregnancy, all women should be asked about marijuana use. Women reporting marijuana use should be counseled about potential adverse health consequences of continued use during pregnancy.

Lactation

Breastfeeding provides benefits to the mother and child and is the optimal feeding choice for the majority of mother/infant dyads. Breastfeeding helps bonding between a mother and her infant. Breastfeeding is economically beneficial to the healthcare system and to families. There is significant research on the benefits of breastfeeding and long-term outcomes for both mothers and infants.

There has been less research done on breastfeeding and marijuana. A 2018 study published in *Pediatrics* looked at the concentration of active metabolites of marijuana in the expressed breastmilk of 54 lactating women who reported using marijuana. 63% of the breastmilk samples contained Δ^9 -THC, the psychoactive substance in marijuana, and the same compound was detected in samples up to six days after last reported use of marijuana.¹⁴ There are two small studies that looked at developmental outcomes in one year-old infants whose mothers used marijuana during lactation with conflicting

results.^{15,16} Research that isolates the effects of marijuana use during lactation on longer-term developmental outcomes in exposed infants is lacking.

CONCLUSIONS:

While it is important to share information with parents about the vast benefits of breastfeeding, a growing body of research on the effects of marijuana exposure during pregnancy and lactation must be acknowledged. A discussion about breastfeeding and use of marijuana (and related products) with parents and caretakers must be inclusive of both benefits and risks.

It is recommended to encourage mothers who use or have used marijuana to abstain from use during pregnancy and lactation. It is important to talk with parents and caretakers who use marijuana about the likely risks of second-hand exposure to their infant and the significant risks in caring for their infants while they are intoxicated. This applies to all parents and caretakers, including those who choose not to breastfeed. Sudden unexplained infant deaths (SUIDs) are also more common in cases where parents and caretakers were under the influence of substances.

RECOMMENDATIONS:

ANMC staff should communicate the following information to parents and caretakers:

1. Prior to pregnancy, during pregnancy and during lactation, parents should be counseled about the adverse health consequences of using marijuana and related products to the fetus or the child.
2. Marijuana metabolites pass into breastmilk and have the potential to adversely affect the developing child.
3. The benefits of breastfeeding are significant and are well-documented by a large body of evidence. There is insufficient data to indicate whether the benefits of breastfeeding exceed the risks of exposure to metabolites of marijuana and related products through breastmilk.
4. There is no information to suggest that there is a “safe” level of marijuana exposure to a fetus or a child.
5. Women reporting marijuana or related products use prior to pregnancy, during pregnancy or during lactation should be advised to discontinue use.
6. Marijuana use by parents or caretakers in any form should be avoided when caring for a child because it impairs judgement and child care abilities, regardless of what the child is fed.
7. Sudden unexplained infant death (SUID) happens more often when there is parent substance use.
8. Parents should be offered resources to help them stop using marijuana.

REFERENCES:

- ¹ Campolongo, P., Trezze, V., Ratano, P., Palmery, M., Cuomo, V. (2011). Developmental consequences of perinatal cannabis exposure: Behavioral and neuroendocrine effects in adult rodents. *Psychopharmacology*. 214(1), 5-15.
- ² Szutorisz, H., DiNieri, J., Sweet, E., Egervari, G., Michaelides, M., Carter, J., Hurd, L. (2014). Parental THC exposure leads to compulsive heroin-seeking and altered striatal synaptic plasticity in the subsequent generation. *Neuropsychopharmacology*. 39(6), 1315-1323.
- ³ Hansen, H., Krutz, B., Sifringer, M., Stefovská, V., Bittigau, P., Pragst, F., Ikonomidou, C. (2008). Cannabinoids enhance susceptibility of immature brain to ethanol neurotoxicity. *Ann Neurol*. 64(1), 42-52.
- ⁴ Willford, J., Chandler, L., Goldschmidt, L., Day, N. (2010). Effects of prenatal tobacco, alcohol, and marijuana exposure on processing speed, visual-motor coordination, and interhemispheric transfer. *Neurotoxicology and Teratology*. 32(6), 580-588.
- ⁵ Fried, P. and Watkinson, B. (2000). Visuo-perceptual functioning differs in 9- to 12-year olds prenatally exposed to cigarettes and marijuana. *Neurotoxicology and Teratology*. 22(1), 11-20.
- ⁶ Fried, P. and Watkinson, B. (2003). Differential effect on cognitive function in 13- to 16-year olds prenatally exposed to cigarettes and marijuana. *Neurotoxicology and Teratology*. 25(4), 427-436.
- ⁷ Chandler, L., Richardson, G., Gallagher, J., and Day, N. (1996). Prenatal exposure to alcohol and marijuana: Effect on motor development of preschool children. *Alcoholism, Clinical and Experimental Research*. 20(3), 455-461.
- ⁸ Fried, P. and Watkinson, B. (2001). Differential effects on facets of attention in adolescents prenatally exposed to cigarettes and marijuana. *Neurotoxicology and Teratology*. 23(5), 421-430.
- ⁹ Day, N., Goldschmidt, L., and Thomas, C. (2006). Prenatal marijuana exposure contributes to the prediction of marijuana use at age 14. *Addiction*. 101(9), 1313-1322.
- ¹⁰ Goldschmidt, L., Day, N., and Richardson, G. (2000). Effects of marijuana exposure on child behavior problems at age 10. *Neurotoxicology and Teratology*. 22(3), 325-336.
- ¹¹ Fried, P., O'Connell, C., and Watkinson, B. (1992). 60- and 72-month follow-up of children prenatally exposed to marijuana, cigarettes, and alcohol: Cognitive and language assessment. *Journal of Developmental and Behavioral Pediatrics*. 13(6), 383-391.
- ¹² Fried, P., Watkinson, B., and Siegel, L. (1997). Reading and language in 9- to 12-year olds prenatally exposed to cigarettes and marijuana. *Neurotoxicology and Teratology*. 19(3), 171-183.
- ¹³ Goldschmidt, L., Richardson, G., Cornelius, M., and Day, N. (2004). Prenatal marijuana and alcohol exposure and academic achievement at age 10. *Neurotoxicology and Teratology*. 26(4), 521-532.
- ¹⁴ Bertrand, K.A., Hanan, N.J., Honerkamp-Smith, G., et al. (2018). Marijuana use by breastfeeding mothers and cannabinoid concentrations in breast milk. *Pediatrics*. 142(3):e20181076.
- ¹⁵ Astley, S. and Little, R. (1990). Maternal marijuana use during lactation and infant development at one year. *Neurotoxicology and Teratology*. 12(2), 161-168.
- ¹⁶ Teenes, K., Avitable, N., Blackard, C., Boyles, C., Hassoun, B., Holmes, L., Kreye, M. (1985). Marijuana: Prenatal and postnatal exposure in the human. *NIDA Res Mongr*. 59:48-60.