

ETHANOL USE DISORDER IN PREGNANCY

IRON DEFICIENCY IN PREGNANCY

- EtOH inhibits iron absorption (gut)
 - Iron key in brain development
- Maternal anemia associated with increased severity of FASD, ASD
 - Neuro effects worse with ↑BG
- EtOH ↑ placental insufficiency
 - Neuro effects worse with IUGR

IV IRON | GLYCEMIC CONTROL | ASA | Serial SCANS

MOST LIKELY TO USE ETOH

Middle class educated. Patients who live with privilege are most likely to consume EtOH during pregnancy. Patients who live in poverty are more likely to binge.

LEAST LIKELY TO SCREEN

Middle class educated. Providers profile their patients and rarely ask about any substance use amongst privileged populations meanwhile over-attribute symptoms in under privileged patients to substance misuse.

SOGC - UNIVERSAL SCREENING



Culturally safe
Gender inclusive
Family centred **+10%**

As little as 2 weeks EtOH abstinence can restore normal gut function and reduce systemic inflammation

NALTREXONE?

Growing evidence of safety in pregnancy for OUD - not validated for EUD expressly.

I. 2019 prospective cohort study

- NTX = SBX = MTH obstetric outcomes
- NTX decreased NAS scores >34wks
- Fetal NTX = Maternal NTX levels
- Undetectable in cord blood if DC'd >60hrs prior to delivery

Cigarette synergistic injury

Potentiates inflammatory effects of EtOH, worsens IUGR and prematurity all of which worsen neurological infant outcomes. "Not offering smoking cessation in SUD treatment is tantamount to increased harm."

- ✓ Nicotine Replacement
- ✓ Bupropion



MATERNAL COMPLICATIONS OF EUD:

- Pregnancy potentiates hepatic sequelae of EtOH use
- EtOH ↑ insulin resistance and risk of long-term DMII
- Hyperglycemia potentiates maternal neuro & hepatic sequelae of EtOH use
- Increases risk for PPD
- Postpartum increases relapse

Kelly, E., & Hulse, G. (2017). A retrospective cohort study of birth outcomes in neonates exposed to naltrexone in utero: a comparison with methadone-, buprenorphine-and non-opioid-exposed neonates. *Drugs*, 77(11), 1211-1219.

Towers, C. V., Katz, E., Weitz, B., & Visconti, K. (2020). Use of naltrexone in treating opioid use disorder in pregnancy. *American journal of obstetrics and gynecology*, 222(1), 83-e1. Carson, G., Cox, L. V., Crane, J., Croteau, et al (2017). No. 245-Alcohol use and pregnancy consensus clinical guidelines. *Journal of Obstetrics and Gynaecology Canada*, 39(9), e220-e254.

Seleverstov, O., Tobiasz, A., Jackson, J. S., Sullivan, R., Ma, D., Sullivan, J. P., ... & Barnett, S. (2017). Maternal alcohol exposure during mid-pregnancy dilates fetal cerebral arteries via endocannabinoid receptors. *Alcohol*, 61, 51-61. Pollard MS, Tucker JS, Green HD. Changes in Adult Alcohol Use and Consequences During the COVID-19 Pandemic in the US. *JAMA Netw Open*. 2020;3(9):e2022942. doi:10.1001/jamanetworkopen.2020.22942

Georgieff, M. K., Tran, P. V., & Carlson, E. S. (2018). Atypical fetal development: Fetal alcohol syndrome, nutritional deprivation, teratogens, and risk for neurodevelopmental disorders and psychopathology. *Development and psychopathology*, 30(3), 1063-1086.

Vernet M, Cadefau JA, Balagué A, Grau JM, Urbano-Márquez AU, Cussó R. Effect of chronic alcoholism on human muscle glycogen and glucose metabolism. *Alcohol Clin Exp Res*. 1995;19(5):1295-1299. doi:10.1111/j.1530-0277.1995.tb01614.x

Lee, Y. J., Kim, J. Y., Lee, D. Y., Park, K. J., Kim, G. H., Kim, J. E., ... & Park, H. Y. (2020). Alcohol consumption before pregnancy causes detrimental fetal development and maternal metabolic disorders. *Scientific reports*, 10(1), 1-16

Taylor, Lauren, et al. "Fetal safety of nicotine replacement therapy in pregnancy: systematic review and meta-analysis." *Addiction* (2020).