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Biological mechanisms of transgenerational transmission of early life stress (MecTranGen)

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MecTranGen deals with early life stress (ELS) in children. ELS represent a major social problem because of its unacceptably high prevalence and its harsh impact on mental and physical health. Growing evidence suggests that the consequences of exposure to abuse or neglect in childhood may be transmitted to a woman's offspring later on in life. Children of mothers exposed to ELS have a significantly higher risk of developing neurodevelopmental and psychiatric disorders. We do not adequately understand the pathways of the trans-generational transmission of ELS at this time. MecTranGen is comprised of studies critical for identifying target(s) which can break the cycle of trans-generational transmission. The focus will be on ELS-associated alterations in stress biology during pregnancy, changes in maternal, placental and infant genes (i.e., epigenetic changes) and their association with maternal postpartum mental health, maternal parenting behavior and fetal and infant brain development. An understanding of these underlying biological pathways is critical for elucidating the cause of mental health problems in children of mothers exposed to ELS. It constitutes the first step in risk identification and in developing timely interventions, prior to the biological embedding of the adverse maternal experience in the child.

