**Do Probiotics Reduce the Risk of NEC in Preterm Neonates?  
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Necrotizing enterocolitis (NEC) is the most common gastrointestinal emergency that occurs in neonates, affecting 10% of very low birth weight preterm infants. NEC can lead to long term sequelae such as short gut syndrome secondary to intestinal surgeries, as well as long term developmental delays. Probiotics are an oral supplement that has been shown to positively alter the microbiota of the preterm neonate, and in animal models have reduced NEC like lesions. A literature search was done to answer the PICO question “*Do probiotics reduce the risk of NEC in preterm neonates”.* Search terms were “Probiotics” and “Necrotizing enterocolitis” with limits being English language, and infants’: birth to 23 months, using the Cochrane, Pub Med and Mesh databases. Four articles were then critically appraised including two randomized control trials, a Cochrane review, and a retrospective cohort study. The two RCT’s and one retrospective cohort study all used slightly different methodology and different strains of probiotics, different dosing, and studied different secondary factors, however all showed a reduction in NEC with the use of probiotics. The Cochrane review of 2700 neonates suggests that a change in practice, to administer probiotics is indicated. At this time there is no set dose, type or duration of probiotic that is considered the gold standard to administer to neonates, and the safety and long term effects are not well studied at this time. In the future there need to be more studies looking at the long term outcomes of neonates that take probiotics, and the safety profile of this supplement need to be better explored.

**References**

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