

COPPER AND ZINC BALANCE IN PREMATURE INFANTS RECEIVING
TOTAL PARENTERAL NUTRITIONI.E. DREOSTI*, R.R. HASLAM**, G.W. DAHLENBURG***, R.M. SMITH*,
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Copper and zinc balances were studied in twelve preterm infants receiving total parenteral nutrition (TPN), supplying copper and zinc at mean intakes of 92 ± 6 and 79 ± 9 $\mu\text{g}/\text{kg day}^{-1}$ respectively. Copper balances were all positive (mean 85 ± 7 $\mu\text{g}/\text{kg day}^{-1}$), which allowing for accumulation in growing tissues suggest a copper requirement for premature infants on TPN of 50-60 $\mu\text{g}/\text{kg day}^{-1}$. Nine of the twelve infants were in negative zinc balance, which was found to be directly related to the level of zinc in the infusion mixture ($r = 0.87$) and to the zinc:protein ratio ($r = 0.83$). The data suggest that a minimum intake of about 100 $\mu\text{g}/\text{kg day}^{-1}$ is necessary to maintain zinc equilibrium in premature infants, which together with an estimated additional 250 $\mu\text{g}/\text{kg day}^{-1}$ needed for incorporation into growing tissues would accord with the recent recommendations for TPN of preterm infants around 400 $\mu\text{g}/\text{kg day}^{-1}$. Balances were found to be similar regardless of whether Synthamin or Vamin was used as the amino acid infusion mixture.

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