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The effect of daily treatment with an olive oil/lanolin emollient on skin integrity in preterm infants: a randomized controlled trial.

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To date, appropriate skin therapy for premature infants has not been clearly defined. Emollient creams are often used without solid evidence for a benefit to the neonate. The aim of the current study was to investigate the cutaneous effects of two different topical ointment therapies. Between October 2004 and November 2006 we prospectively enrolled 173 infants between 25 and 36 weeks of gestation admitted to a neonatal intensive care unit. Infants were randomly assigned to daily topical treatment with water-in-oil emollient cream (Bepanthen), olive oil cream (70% lanolin, 30% olive oil), or to a control group. Each neonate was continuously treated for a maximum of 4 weeks. Skin condition (skin score reflecting degree of dermatitis) in these groups was compared at weeks 1, 2, 3, and 4. Neonates treated with olive oil cream showed statistically less dermatitis than did neonates treated with emollient cream, and both had a better outcome than those in the control group ($p < 0.001$ in weeks 2-4). Treatment effects persisted throughout the study period and applied to infants of all gestational ages. This study demonstrates that topical skin therapy lowers the risk of dermatitis. Olive oil cream was superior to water-in-oil emollient cream.

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