We assessed cannulation success, time to cannulate, and correct treatment identification for each participant.

Results 14 experienced (9 Fellows, 5 Consultants) and 9 junior (Registrars) medical staff attempted 46 cannulations. Experienced participants successfully cannulated 100% of treated and control sections with no significant difference in mean (SD) time to cannulate (98 (75) s and 97(51) s respectively, p = 0.97). Junior participants cannulated 89% and 67% of treated and control sections respectively (p = 0.69), and mean (SD) time to cannulate was 132 (78)s and 106 (53)s respectively (p = 0.42). GTN treated arteries were correctly identified by 43% of experienced and 22% of junior participants (p = 0.47).

Conclusions This study suggests that topical application of GTN does not increase successful cannulation of umbilical arteries by experienced staff. More participants or prolonged GTN application time may be needed to confirm these findings in junior staff.

**PS-199** IMPROVED IRRADIANCE OF PHOTOTHERAPY DEVICES IN DUTCH NEONATAL INTENSIVE CARE UNITS

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**Background/aims** Phototherapy (PT) is an effective treatment for hyperbilirubinemia, provided a minimum irradiance level is applied. Previously, we reported on low irradiance levels of PT devices in Dutch Neonatal Intensive Care Units (NICUs). These data were shared with all NICUs. We hypothesised that this knowledge would positively affect current applied irradiance levels. Therefore we determined irradiance levels of PT devices again in 2013.

Methods Irradiance levels of overhead and underneath PT devices in all 10 NICUs were measured with a Dale 40 radiometer (FlukeBiomedical, Everett, Washington, USA), in routinely applied PT practice patterns, using an infant silhouette model. The infant’s distance from the overhead device was measured.

Results Irradiance levels of 35 PT device-incubator combinations in 10 NICUs (8 overhead and 2 underneath). Overall irradiance levels increased (p = 0.01); irradiance levels of overhead and underneath PT devices also increased with 50% (NS) and 200% (p = 0.03), respectively. The mean (range) distance between overhead PT device and infant decreased with 7 cm to 38 (30–40 cm) (p = 0.03). Irradiance levels of 35 PT device-incubator combinations were applied. Previously, we reported on low irradiance levels of PT devices (mean 2.2 ± 0.7 mW/cm²/nm) were obtained for 70% of PT devices versus 20% in 2008 (p = 0.02).

Conclusions Applied irradiance levels of PT devices in Dutch NICUs have markedly improved in 2013. Current data suggest that awareness among healthcare workers regarding requirements for effective PT results in improved use of PT devices, including smaller distances between PT device and infant.

Moreover, the availability of better performing (Light Emitting Diode) PT devices might have contributed.

**PS-201** ASSOCIATION BETWEEN BLOOD TRANSFUSION AND DEVELOPMENT OF RETINOPATHY OF PREMATURITY - SYSTEMATIC REVIEW OF LITERATURE AND META-ANALYSIS

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**Background and aims** Retinopathy of Prematurity (ROP) is an important cause of visual impairment and blindness in children.1 **Aim** Conduct a systematic review and meta-analysis to determine the association between blood transfusion and the development of ROP in preterm infants ≤32 weeks gestational age or birthweight <1500 grams.

**Methods**

Data Sources: MEDLINE, EMBASE, Cochrane Register, CINAHL, LILACS, Web of Knowledge, clinicaltrial.gov and Open SIGLE.