



Convegno Nazionale

Sangue Cordonale, Emazie Fetali e CSE: Un unico dono per la cura di diversi pazienti Roma 15.11.2023

LO STUDIO BORN: DATI PRELIMINARI NELLA RETE ITCBN

LUCIANA TEOFILI



BORN



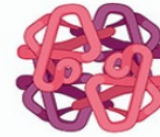
Fondazione Policlinico A. Gemelli IRCCS, **Roma**; Azienda Ospedaliero Universitaria Careggi, **Firenze**; Azienda Ospedaliero Universitaria Pisana, **Pisa**; Città della Salute e della Scienza, **Torino**; Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, **Milano**; Azienda Ospedaliera Bianchi Malacrino Morelli, **Reggio Calabria**; Fondazione IRCCS Policlinico S. Matteo, **Pavia**, Ospedale Casa Sollievo della Sofferenza, **San Giovanni Rotondo** (Foggia), Azienda Ospedaliera di Rilievo Nazionale Santobono-Pausilipon e Azienda Ospedale Evangelico Betania di **Napoli**.



Adults



80–94 fL

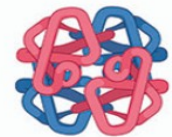


Adult haemoglobin

Premature infants



110–120 fL



Fetal haemoglobin

Mean
corpuscular
volume

Haemoglobin

HbF protects preterm neonates from hyperoxia

Anemia/hypoxia



Increase of
2,3-DPG



HbF

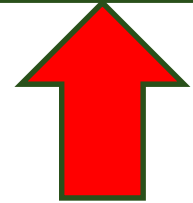


HbA

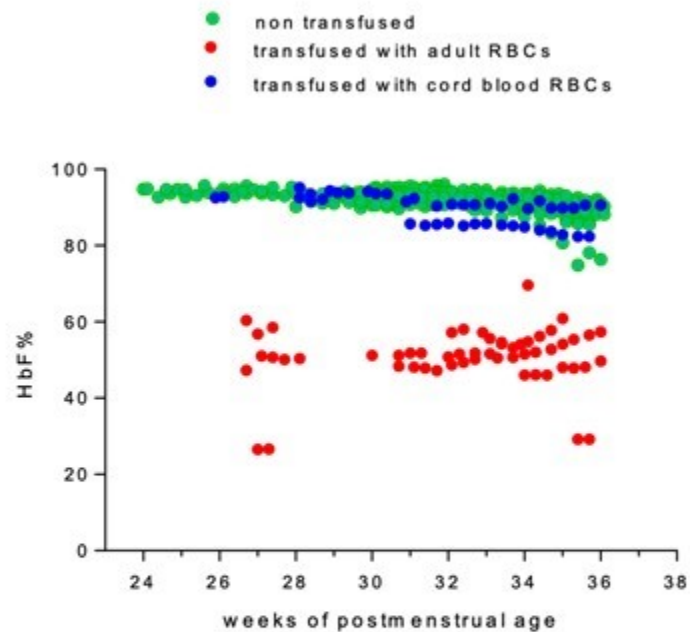
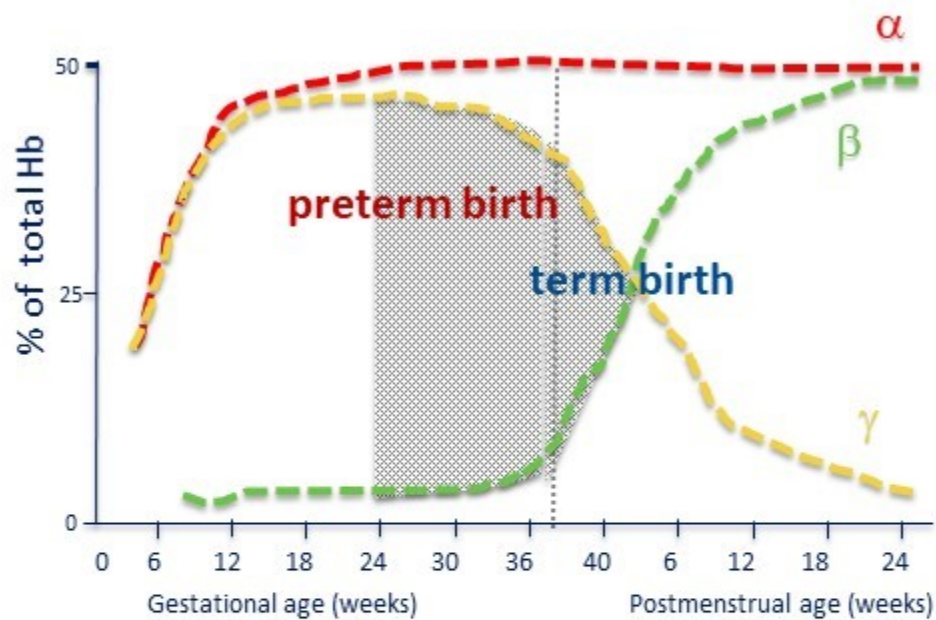
Slight increase of
oxygen unload

Increase of oxygen
unload

Oxidative damage



Hyperoxia



data from the «CB-Trip study» Teofili L. et al. Br J Haematol 2020

Retinopatia e prematurità.

Nati vivi in Italia nel 2020: **404.892**

Nati pretermine (< 37° settimana di gestazione):

7.5% (95% CI 7.2, 7.8).

30.800 (95% CI 29.600, 31.900)

Nati pretermine < 28° settimana: nati pretermine <37° settimana:

0.04 % (95% CI 0.04-0.04)

1.200

Incidenza di ROP severa varia dal 5% al 38%

B-2. RED CELLS, LEUCOCYTE-DEPLETED IN ADDITIVE SOLUTION

Definition and properties

Red Cells, Leucocyte-Depleted in Additive Solution (LD-AS) is a red cell component derived from *Whole blood* by removing the leucocytes, removing the majority of the plasma and adding an additive solution, or from leucocyte filtration of *Red Cells, AS* or *Red Cells, Buffy Coat Removed-AS (BCR-AS)*.

Red Cells, LD-AS contains a minimum haemoglobin content of 40 g. The haematocrit is 0.50 to 0.70.

Red Cells, LD-AS contains less than 1.0×10^6 leucocytes.

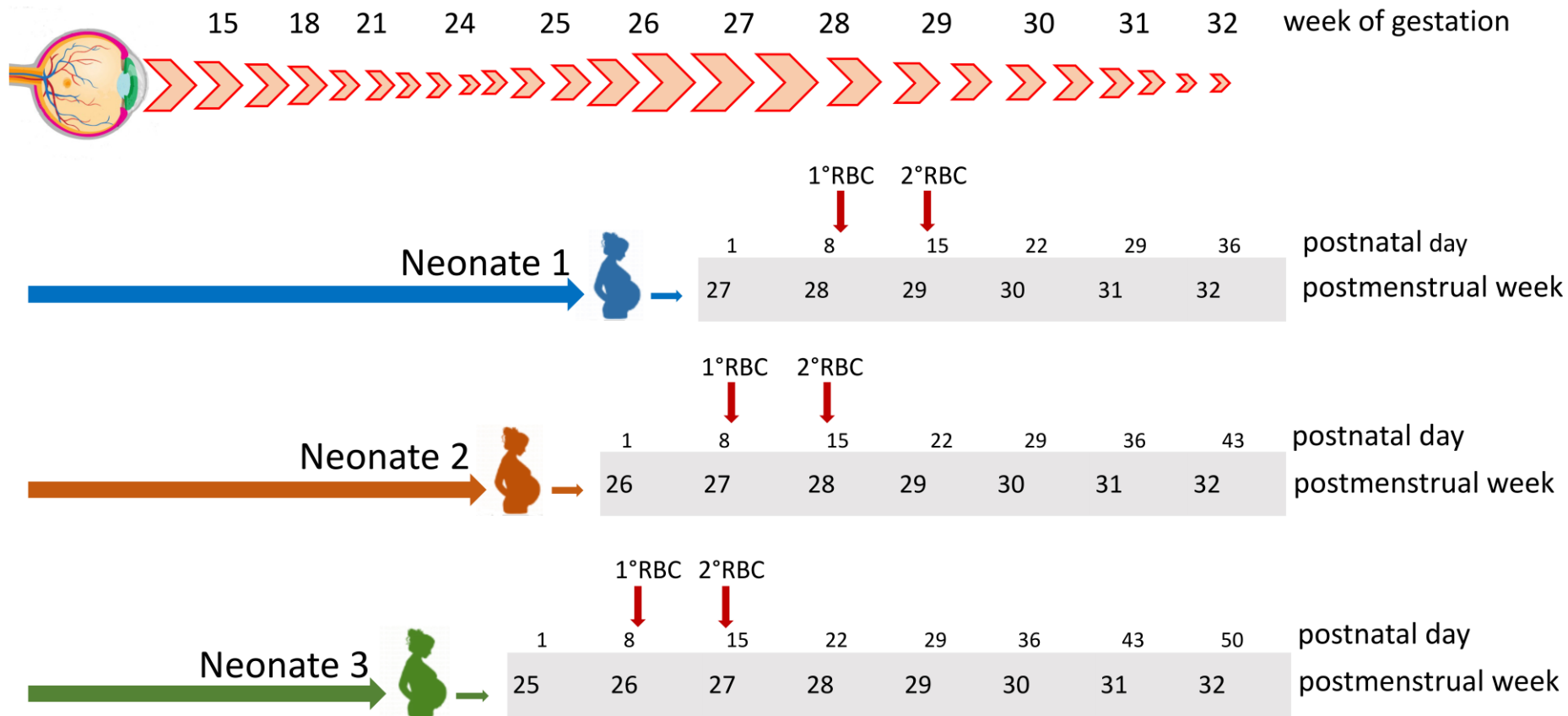
Haemolysis at the end of storage ^a	< 0.8 % of red cell mass	as determined by SPC
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a A minimum of 90 % of units tested should meet the required value.

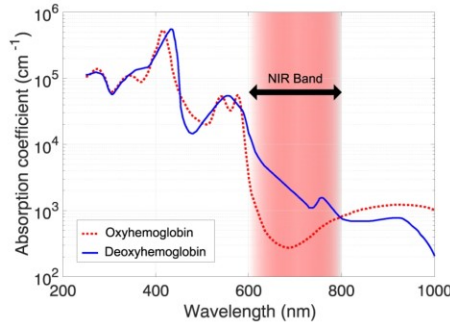
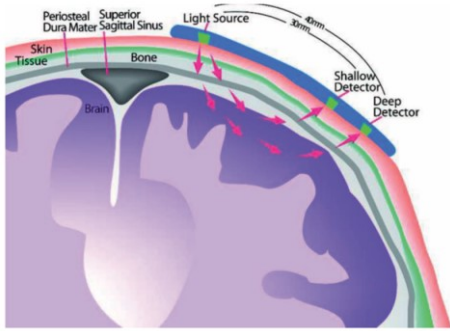
Retinopathy

Teofili L, et al. Transfusion-Free Survival Predicts Severe Retinopathy in Preterm Neonates.
Front Pediatr. 2022;10:814194

Retinal vasculogenesis and angiogenesis



Pellegrino C. (....), Teofili L. Differences in Cerebral Tissue Oxygenation in Preterm Neonates Receiving Adult or Cord Blood Red Blood Cell Transfusions. JAMA Netw Open. 2023



- Near-infrared spectroscopy (NIRS) offers non-invasive, in-vivo, real-time monitoring of tissue oxygenation
- Differential absorbance of near-infrared (NIR) light at 700-850 nm, where the absorption spectra of oxyhaemoglobin (O_2Hb) and deoxyhaemoglobin (HHb) are maximally separated

Conclusions

The clinical benefit in recipients is to be demonstrated

Possible disadvantages:

- need for bacterial testing (up to 10% can be contaminated)
- additional costs
- delayed release
- Lower transfusion efficiency
- scarce number of available units

Ai papà e alle mamme

Fresenius HemoCare Italia

Torino: F. Cresi, M.F. Campagnoli, G. Ansaldi, A. Dragonetti

Pisa: M. Fabbri

Firenze: G. Remaschi, F. Pagliai, E. Beccastrini, M. Santosuosso

Roma: P. Papacci, C. Giannantonio, G. Cantone, M. Bianchi, C. Pellegrino.

Napoli: A. Molisso, R. Penta D'Aragona

Pavia: S. Ghirardello, T. Boggini, A. Livraghi ;P. Bergamaschi

Milano: G. Raffeli, S. Cavallaro, S. Villa, T. Montemurro

Reggio Calabria: I. Mondello, A. Trimarchi



<http://www.genitin.it>



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