

# INITIATION AND PROGRESSION OF ENTERAL FEEDING VOLUMES IN ELBW INFANTS – THE CONNECTION TRIAL

J Neu, MD, UF Health Shands Children's Hospital, Gainesville, FL; M Thuresson, A Kronström, S Strömberg, J Rastad, Infant Bacterial Therapeutics AB, Stockholm, Sweden.



## BACKGROUND & AIMS

- Unclear how rapidly NICUs initiate enteral feedings in ELBW infants.
- Show current progression across 80 NICUs from 10 countries with 641 ELBW infants.
- Detailed feeding information on how clinical events associate with feeding volume progression.

## MATERIALS AND METHODS

The 'Connection Trial' is a phase 3, placebo-controlled multicenter study under US IND and EU CTX on IBP-9414 containing pharmaceutical grade *L. reuteri* at  $10^9$  CFU.

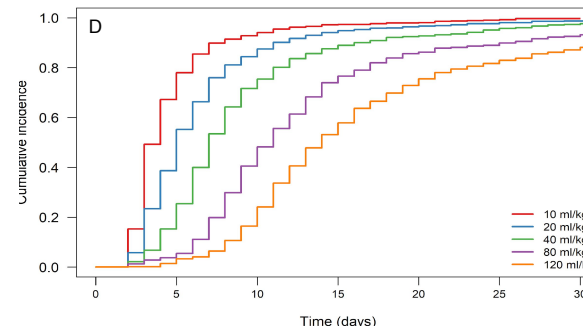
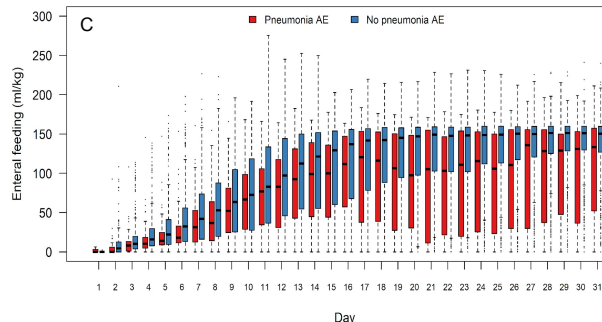
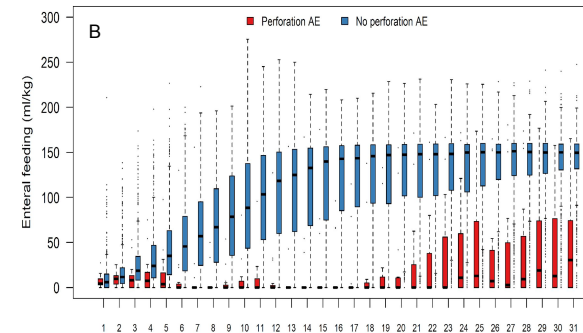
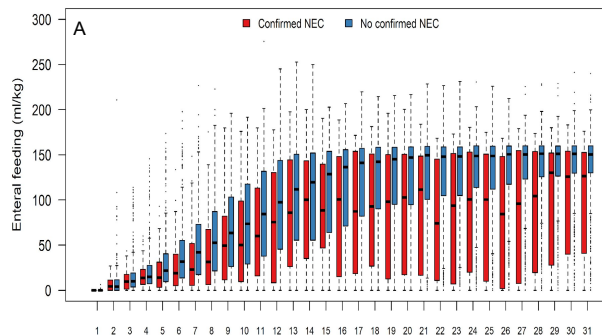
- 641 infants with mean 847g BW and GA 27w were analyzed with randomization status blinded.
- Clinical events were gathered from investigator reports and analyzed with univariable and multivariable Cox proportional hazard models,  $p < 0.05$  as significant.

## RESULTS

- Daily intakes varied, increased up to about 18 days with clear separation already the 1<sup>st</sup> week for infants with e.g., intestinal perforation (n=17), confirmed NEC (n=61) and pneumonia (n=63) (Figs 1A-C).
- No infant reached 10 ml/kg/day before day 2 and median time to this volume was 4 days. The earliest attainment of 120 ml/kg/day occurred on day 4 with 1/4 of infants reaching this volume beyond 20 days (Fig.D).
- Significant association (all volumes) was found for BW, GA, any SAE, GI and respiratory SAEs, GI perforation, days on iv. antibiotics, PDA, and hypotension.
- The greatest reduction in the chance of reaching any of the volumes of 10, 20, 40, 80, 120 ml/kg/day associated with GI SAEs (decreases by 38-61%), intestinal perforation (51-78%) and hypotension (40-63%).

## KEY CONCLUSION

- **Initiation and progression of enteral feeding in ELBW infants vary and associate with GI complications as well as e.g., hypotension, PDA and respiratory compromise.**
- **Revision of commonly applied routines for enteral feeding may enable earlier attainment of target feeding volumes of premature infants.**



**Fig 1.** Box plots showing total daily enteral feeding volumes (ml/kg) over age in days for infants with NEC (A), GI perforation (B) and pneumonia (C), age (days) at total daily enteral feeding volumes of  $\geq 10$  to  $\geq 120$  ml/kg (D).