The Power of Innovation

A health care system to meet our needs

NSW Health Symposium Oct 2012

Tiny Infant + Mighty Nutrition = Healthy Beginning Collaboration

Introduction

There are over 7000 preterm infants born every year in NSW.

Many sick newborns admitted to Newborn Intensive Care Units (NICU) are unable to feed orally and intravenous feeding (parenteral nutrition, PN) is the standard practice for them.

In 2009, it came to light that there were 32 different pre-mix neonatal PN formulations in NSW with many variations in pricing and PN practice.

A multidisciplinary group from all NICUs in NSW formed a consensus group (CG) with the aim being to standardize these formulations with a hope that such standardization would also reduce costs and healthcare associated infections.

Aim

(1)standardize neonatal PN,

(2)improve nutrient intakes of the neonates,

(3)improve access to PN even at odd hours,

(4) improve patient safety and

(5) without increasing costs.

Consensus PN formulations are designed to meet the following requirements:

(a)provide the recommended parenteral nutrient intakes for neonates,

(b)safe, and easy to implement and

(c)cost effective.

Method

Consensus Process:

A series of consensus meetings, email and phone conversations occurred between November 2010 and April 2011.

A detailed analysis of the available data was performed according to NHMRC guidelines.

At the end of each meeting, all the key recommendations were discussed and if necessary were voted upon.

Members of the group representing each NICU conveyed these outcomes and recommendations to the rest of their team in their respective NICUs for their input.

Results

CG identified and shared good clinical practices occurring among individual NICUs. Some examples:

Extending hang times from 24 to 48 hours:

(a) Reduced costs - e.g. Annual Cost savings of $164,339 and $97,603 per year at Royal North Shore Hospital and The Children's Hospital at Westmead respectively.

(b) Less handling of IV lines and reduced healthcare associated infections – at the Royal Hospital for Women (RHW) and The Children's Hospital at Westmead (Balegar 2012, Royal Hospital for Women Audit 2011).

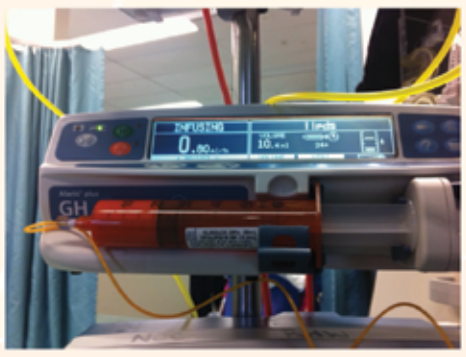
Results (cont.)

(c) Significant time saving and reduced workload for nursing staff (The Children's Hospital At Westmead) (Balegar VKK 2012).

Table 4: Nursing satisfaction survey

	Decreased n (%)	Increased n (%)	Unchanged n (%)
Work load in changing TPN	28 (68.3)	0	13 (31.7)
Time spent towards TPN change	33 (80.5)	0	8 (19.5)
Error rate (e.g.: baby missing a TPN, insufficient quantity, confusion of odd/even days)	9 (22)	9 (22)	23 (56)

Liverpool NICU uses amber coloured lipid syringes to give protection from ambient light.



RPA NICU includes lipid emulsions in the total fluid intake to avoid excess IV fluids which in turn may increase the incidence of chronic lung disease.

Consensus group agreed to adapt all the above practices into the consensus protocol. In June 2011, the consensus group agreed on 6 (a reduction from 32 to 6) standard PN solutions for use in all perinatal NICUs. Majority also agreed on one common lipid emulsion. The group also developed a common PN clinical protocol. Formulations were rolled out in July 2011 and the process completed in March 2012.

Conclusion

The consensus achieved the following outcomes:

1.Reduction in the number of formulations (from 32 to 6)

2.Improved nutrient content: Infants will receive 2 g/kg/day

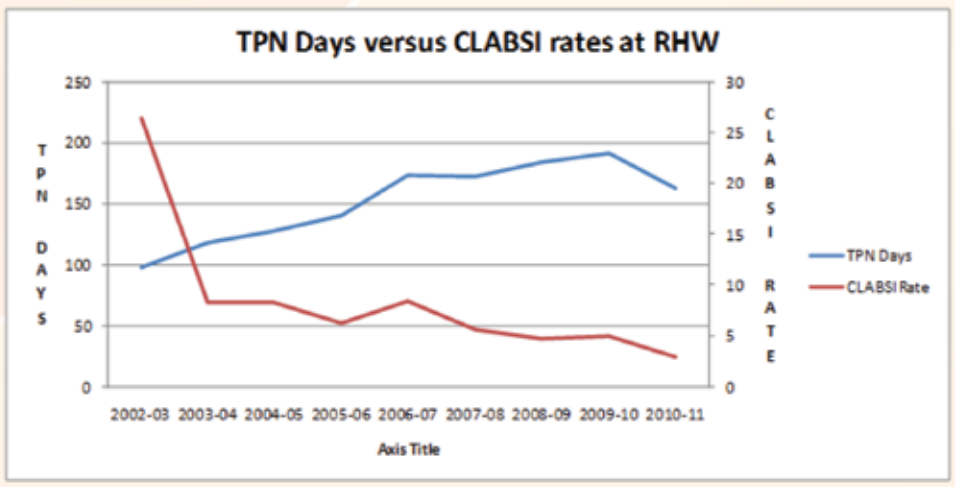
3.Extended hangtime from 24 to 48 hours

4.Pricing: Price was renegotiated for the whole group.

5.Improved labelling and colour coding to avoid errors.

7. Standardized PN protocol

8. Nutrition Calculator



Health
South Eastern Sydney
Local Health District

Health
Northern Sydney
Local Health District