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# Current management of transitional feeding issues in preterm neonates born in Queensland, Australia

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## KEYWORDS

Preterm;  
Neonate;  
Infant feeding;  
Management practices

## Abstract

**Background:** Many preterm neonates display difficulty establishing suck-feeding competence in the weeks following birth. Ineffective management of transitional feeding issues may cause patient complications, and can contribute to increased length of stay.

**Aims:** Given that many neonatal nurseries appear to vary in their neonatal feeding management practices, the aim of this study was to investigate and document the routine level of support and intervention currently provided for preterm neonates with transitional feeding issues across the various level II (special care) nurseries (SCNs) in Queensland, Australia.

**Methods:** A questionnaire was mailed to all Queensland SCNs in 2005 ( $n=36$ ). The questionnaire contained a series of closed-choice and short-answer questions designed to obtain information from each SCN regarding their current practices for managing transitional feeding issues in preterm neonates. Results were confirmed during a follow-up phone call.

**Results:** Responses were obtained from 29 SCNs (80.6%). None of these nurseries reported having any formal, written policies regarding the management of transitional feeding issues in preterm neonates. Wide variations were reported in relation to the suck-feeding assessments and interventions used by staff within the various SCNs. Of the 29 nurseries, 4 (13.8%) reported using checklists or assessments to judge readiness for suck-feeds, and 5 (17.2%) reported using pulse oximetry to judge tolerance of suck-feeding attempts. Eighteen SCNs (62.1%) reported offering some form of active intervention to assist neonates with transitional feeding issues, with the most common intervention techniques reported being non-nutritive sucking during tube feeds, pre-feeding oral stimulation, and actively pacing suck-feeds. Twenty-two SCNs (75.4%) reported having access to a lactation consultant to assist mothers with breastfeeding issues.

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*Conclusions:* Differences were reported in the routine management of transitional feeding issues in preterm neonates across the various SCNs in Queensland. It is suggested that evidence based guidelines need to be developed, and that, in order to do this, further research studies are required to determine current best practice, as well as to answer remaining questions. © 2008 Elsevier Ireland Ltd. All rights reserved.

## 1. Introduction

### 1.1. Background

Many preterm neonates display difficulty establishing suck-feeding competence in the weeks following birth. As a result, many of these neonates will require some duration of tube feeding until they mature and are medically stable enough to feed proficiently by mouth. Several previous studies have demonstrated that nursery management practices can impact on the development of suck-feeding skills in this population [1–3]. Ineffective feeding practices have the potential to result in serious consequences for preterm neonates. In the short-term, early feeding problems may cause airway complications, increased physiological stress, poor weight gain, and delayed transition to independent suck-feeding [4–8] and, as a result, may contribute to increased length of stay [9]. Long-term consequences stemming from ineffective management of transitional feeding issues may include poor development of oral motor skills required for later eating and drinking, altered oral sensitivity, food refusal, reduced growth, and poor developmental outcomes [10–13]. Ineffective management of transitional feeding issues may also impact on parental stress and mother–child bonding [14–16].

In Australia, preterm neonates who require intensive/level III care are admitted to a neonatal intensive care unit (NICU). Special care nurseries (SCN) provide level II care for medically compromised neonates who do not warrant an admission to the NICU, and for neonates who have stepped-down from the NICU following clinical improvement. In Queensland, there are currently 3 NICUs and 36 SCNs. Suck-feeding usually commences in the SCN, as neonates that require level III care in a NICU are generally too ill and unstable to tolerate suck-feeds.

Anecdotal reports indicate that many SCNs in Queensland appear to vary in their approach to managing transitional feeding issues displayed by preterm neonates. Several studies performed in other countries have documented wide variations between SCNs in terms of nutritional and medical management of neonates [9,17–20]. It is, therefore, not surprising that SCNs may also vary in relation to their management of transitional feeding issues. Previous studies have indicated that differences in nursery management practices may impact on patient's medical and growth outcomes, and may also affect length of hospital stay [9,17–20]. However, to date, few research studies have considered the role that differences in management of transitional feeding issues may have on such outcomes.

### 1.2. Aims

Given that minimal literature is available regarding current practices for managing transitional feeding issues in the

preterm population, this study aimed to: (a) document the routine interventions and support currently provided to preterm neonates and their parents during the transitional feeding period across the various SCNs in Queensland, and (b) (if possible) evaluate the differences that any differences in management practices have on patient outcomes.

## 2. Methods

### 2.1. Participants

As most preterm neonates commence suck-feeding in a level II nursery, we sought to enrol the Nurse Unit Manager (NUM) from each of the SCNs across Queensland in 2005 ( $n=36$ ).

### 2.2. Procedures

The NUM from each SCN was mailed a questionnaire, along with a reply-paid envelope. A cover letter explaining the purpose of the study was also included. NUMs were informed that participation was voluntary and that the results of the study would be published in a form that did not allow identification of their individual nursery. Results obtained from questionnaires were confirmed during a follow-up phone call.

### 2.3. Instruments

The questionnaire consisted of a total of 8 sections. Each section consisted of a combination of closed-choice and short-answer questions. NUMs were asked to provide the following information regarding the management of transitional feeding issues within their nursery: (a) criteria used to determine when a preterm neonate commences suck-feeds; (b) any published or self-developed assessments/checklists used to judge suck-feeding competence in preterm neonates, as well as any instrumental assessments used to monitor neonates during suck-feeding. NUMs were also asked to report which health professional/s routinely performs assessments of oral competence in preterm neonates within their nursery; (c) criteria used to determine when top-up tube feeds are given, as well as criteria used to determine when tube feeding is ceased; (d) specific interventions used to assist in establishing suck-feeding competence in preterm neonates; (e) the amount of time and type of involvement of developmental therapists with preterm neonates; (f) specific interventions used to assist in establishing preterm neonates' breastfeeding competence; (g) whether their SCN had set follow-up clinics for preterm neonates, and whether nursing staff or developmental therapists were involved with follow-up clinics; (h) whether their SCN systematically monitored the developmental outcomes of preterm neonates; and (i) the information that their SCN provided to

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