Background:
Oropharyngeal dysphagia (OPD) is common in 2 out of 3 preschool aged children with cerebral palsy (CP) (Benfer 2014). Feeding skills change rapidly during transitions onto solid feeding, however little is known about the progression of OPD at this young age.

Objective:
To determine changes in prevalence and severity of OPD in children with CP and relationship to health outcomes.

Study design: Longitudinal study of a population-based cohort.

Participants: 53 children with confirmed CP diagnosis participated in this study. Inclusion: Queensland-born in birth years 2006-2009. Children were assessed first at 18-24 months (Ax1 mean age 22.9 months c.a. (SD=2.9), 33 males, Gross Motor Function Classification System (GMFCS) I=22, II=7, III=11, IV=5, V=8) and again at 36 months (Ax2).

Methods:
Children attended the hospital for evaluation. All children had their gross motor skills classified on the GMFCS and motor type/distribution by 2 physiotherapists. Mealtime videos were videoed, and rated by a pediatric speech pathologist.

OPD Classification:
2. 16 signs suggestive of pharyngeal dysphagia (Benfer 2013)

OPD Severity: DDS Part 2 raw score. (0-22)

Secondary OPD measure: parent observation of child’s challenging behaviors during mealtimes (Benfer, under review).

OPD related health outcomes:
1. Nutritional status: measured using Z-scores for weight, height, and body mass index (BMI)
2. Parent stress during mealtimes (Visual Analogue Scale 1-5)
3. Hospitalisations for pneumonia.

Results:

**OPD Classification (yes/ no)**

- Number of OPD cases on the DDS

**OPD Severity**

- Prevalence of OPD reduced from 62% at 18-24 months (Ax1) to 59% at 36 months (Ax2)
- Association between OPD at 18-24 months and health outcomes at 36 months: OPD on the DDS (classification) was related to low Z-scores for weight (adj β=1.2, p=0.03) and BMI (adj β=1.1, p=0.048)
- Increasing numbers of challenging behaviors increased parent stress (adj OR=1.1, p=0.049)
- Other associations were non significant.

Conclusion
Classification and severity of OPD remained relatively stable between 18-24 months and 36 months. OPD was able to predict important outcomes at 36 months, and so should be screened from a young age, using standardized measures. These findings contribute to developing more effective screening processes considering critical developmental transitions anticipated to present challenges for children from different GMFCS levels.

References:
Benfer 2013. OPD and gross motor skills in children with CP. Pediatrics
Benfer 2014. Validity and Reproducibility of OPD measures. DMCN
Benfer 2015 Longitudinal study of OPD in preschool children with CP. Under review AMPR.
Sheppard 2014. Dysphagia Disorders Survey. RIDDs

Acknowledgments:
This project was supported by the National Health and Medical Research Council Postgraduate Medical and Dental Scholarship (1018264 - KB), Career Development Fellowship (RB) and NHMRC Research Grants (569605) and (465128).