

Buccal opioid use for pain and dyspnoea for children with palliative care needs during end of life care

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Introduction

EACH provides palliative and end of life care to children and young people with life threatening and life limiting conditions and their families living in Cambridgeshire, Norfolk, Suffolk and North East/West Essex in the UK.



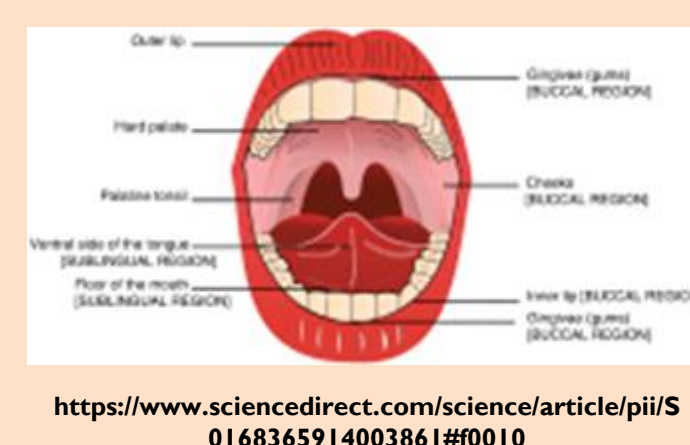
Figure 1: EACH catchment

This poster reports on a retrospective study which explored buccal administration of opioids and aimed to elicit effectiveness, advantages and disadvantages for breakthrough pain and dyspnoea in symptom control during end of life care. Implications for nursing practice were identified.

Background

The buccal mucosa is an effective route for medication administration because it:

- Avoids drug degradation in stomach and first pass metabolism
- Enables rapid absorption
- Is fast acting
- Is minimally invasive
- Has increased bioavailability



<https://www.sciencedirect.com/science/article/pii/S0168365914001861>

When caring for children, especially in the home environment, it is most convenient when prescribed and prepared in advance.

Patients & Method

A retrospective case note review of children and young people receiving end of life care at East Anglia's Children's Hospices over a 12 month period in 2017.

Patient demographics

- Children's care records reviewed n=26
- 54% female, 46% male
- Age range 8 days to 17 years

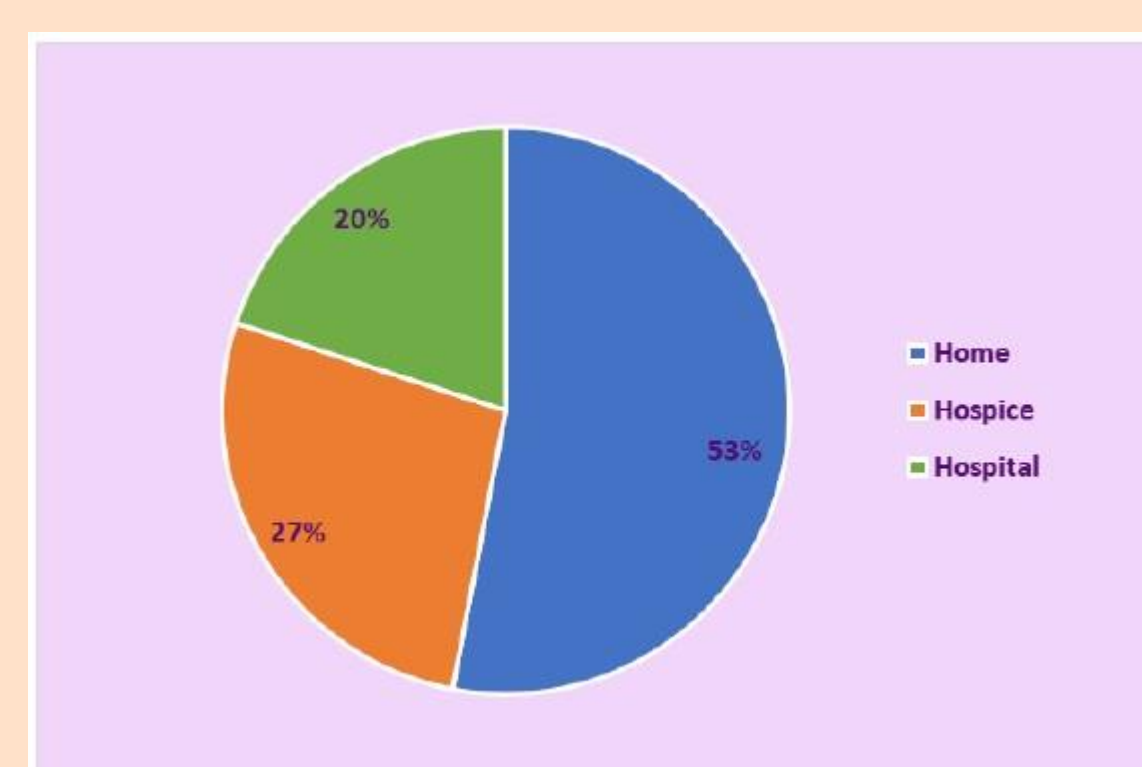


Figure 2: Place of death

Diagnoses

- 38% cancer
- 23% neurodegenerative conditions e.g. Metachromatic Leukodystrophy, Spinocerebellar Atrophy
- 39% other conditions such as Menkes disease, Nephrotic Syndrome
- 2 children were transferred from PICU / NICU for compassionate extubation.



Assessment Tools

Tools were used as standard practice to measure / record level of effectiveness.

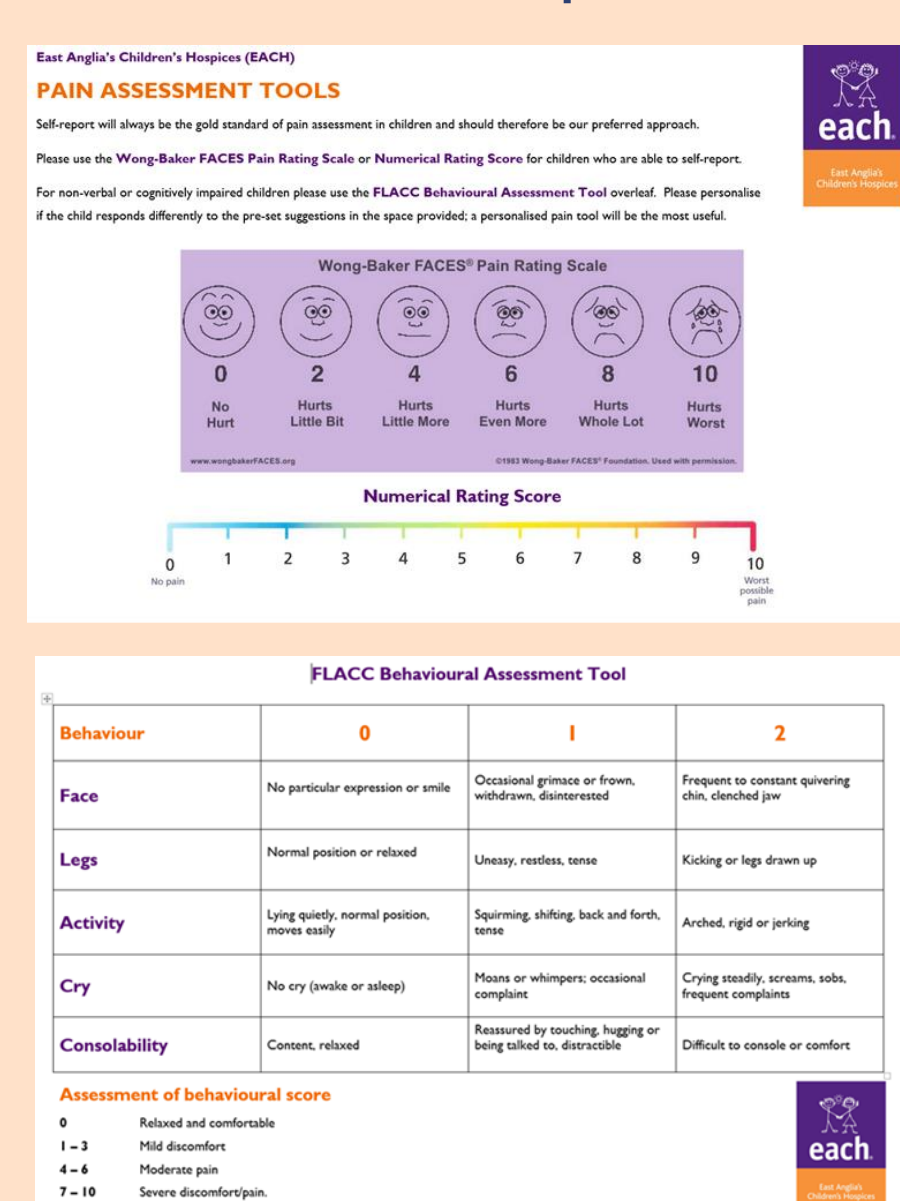


Figure 3: EACH pain assessment tools

Score	Description
0	No shortness of breath
0.5	Slight shortness of breath
1	Mild shortness of breath
2	Mild shortness of breath
3	Moderate shortness of breath
4	Moderate shortness of breath
5	Strong or hard breathing (CYP unable to say 5-6 word sentences)
6	Strong or hard breathing (CYP unable to say 5-6 word sentences)
7	Severe shortness of breath (CYP able to say 2-3 words at a time)
8	Severe shortness of breath (CYP able to say 2-3 words at a time)
9	CYP can only say 1 word at a time
10	CYP unable to talk due to breathlessness

Figure 4: EACH shortness of breath scale

Findings

- Total children and young people case notes reviewed n=26
- Opioid prescribed (Diamorphine Hydrochloride, Oxycodone Hydrochloride, Fentanyl) n=21
- Buccal opioid administered n=17
 - Oxycodone Hydrochloride n=2
 - Diamorphine Hydrochloride n=15

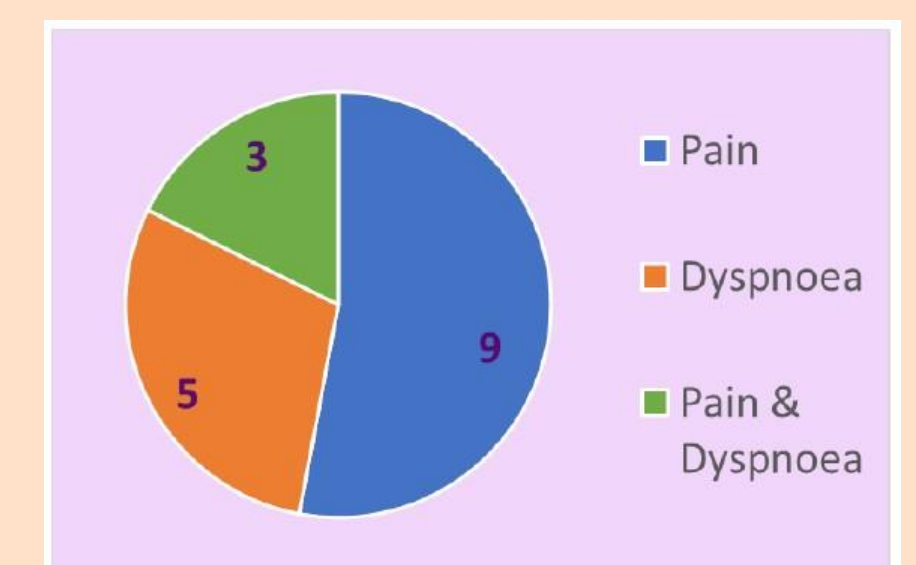


Figure 5: Children's symptoms treated with buccal opioid

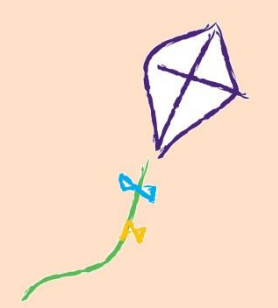
Buccal administration was effective for all children except 3 (17.6%)

- One responded to use of a buccal anxiolytic (Midazolam);
- One received IV bolus of opioid with effect; and
- One had continuous subcutaneous infusion dose increase as buccal administration was ineffective in last few hours of life.

Advantages & Disadvantages

Figure 6: Advantages & disadvantages of buccal route for effective breakthrough pain and dyspnoea

Advantages	Disadvantages
<ul style="list-style-type: none"> • Fast acting • Quick absorption • Relatively painless • Easy to administer • Non-invasive • Parents empowered to give • Low cost • Can be used in unconscious patient 	<ul style="list-style-type: none"> • Unpalatable • Storage in home/hospital • Wastage • Drawing up small doses • Benefit reduced if dose accidentally swallowed (salivary washout)



Recommendations for Nursing Practice

Buccal route administration of opioids is a safe and effective medicines administration strategy. It requires organisational policy and procedures to guide practice.

An individual risk assessment of the preferred care environment for safe storage and disposal of buccal medication is essential.

Staff need training and to be assessed competent to prepare and administer buccal medication and be able to teach parents to give safely.

Accurate recording of effectiveness using appropriate pain/dyspnoea assessment tools is an integral part of the nursing care process.

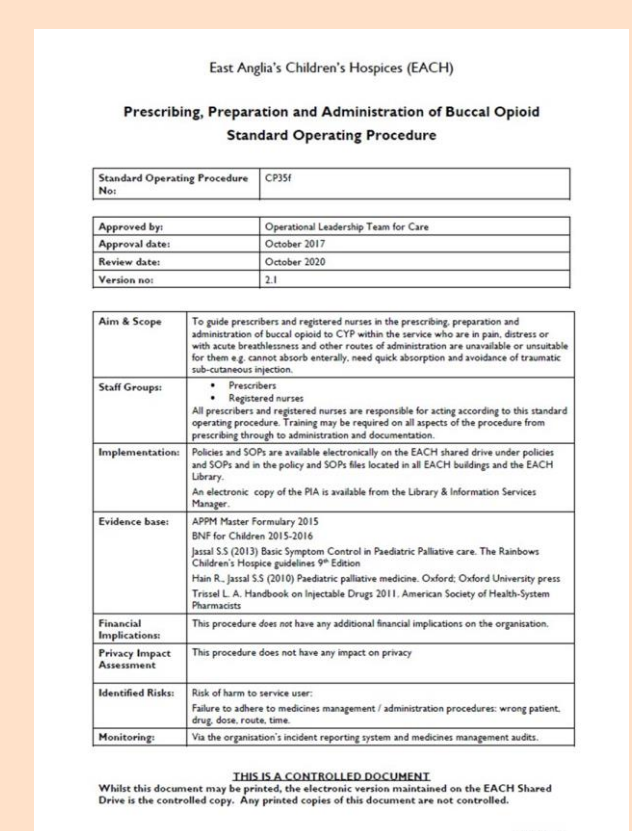


Figure 7: Organisational policy

Procedure

- Prescribe opioid and water for injection for buccal use
- Risk assess safe storage when using in family home
- Cap and label each syringe with drug name, dose, date and nurse signature
- When made in advance store in a labelled, lidded box and keep refrigerated
- Discard at end of each shift in hospice
- May prepare and keep for up to seven days for parent administration in the home
- Provide a record sheet for parents to document administration
- When administering first dose give in 2-3 aliquots over 20 minutes monitoring effect.



Figure 8: Preparation

References

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- Simon S.M., Schwartzberg L.S. (2014) A review of rapid-onset opioids for breakthrough pain in patients with cancer. *Journal of Opioid Management* 10(3) June p.207-215

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