Children's Health Ireland
Crumlin | Connolly

Protocol for the Administration of Oral/Rectal Paracetamol by Nursing Staff in Triage in the Children's Health Ireland Department of Emergency Medicine at Crumlin and Connolly

Policy [ ] Procedure [ ] Protocol [x] Guideline [ ]

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02	07/09/2020	6-month Pilot	Formatting post pilot

This document to is be used in ED CHI at Crumlin and UCC CHI at Connolly until a cross site CHI policy is implemented

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1.0 Introduction

Pain is a common symptom among paediatric patients presenting for triage in Emergency Departments or Urgent Care Centres. Early pain management can improve the quality of the patient experience while waiting for acute assessment and management. In addition, early administration of antipyretics in children presenting with a fever ≥ 38° Celsius can increase patient comfort and reduce parental anxiety.

1.1 Aim of the protocol

The aim of this protocol is to expedite antipyretic/analgesia therapy for children presenting to a Paediatric Emergency Department (PED) or Urgent Care Centre (UCC) in the Children's Health Ireland (CHI) at Crumlin and Connolly and to establish a standard of best practice for the safe preparation and administration of oral/rectal paracetamol to patients with mild to moderate pain and/or pyrexia at triage by nursing staff.

1.2 Scope of the protocol

This protocol sets out the guidance for the preparation and administration of oral/rectal paracetamol by triage nurses in a PED or UCC at Children's Health Ireland (CHI) at Crumlin and Connolly.

2.0 Applicable to

This protocol is applicable to:

- Nurses that fulfil the following criteria:
  - Registered nurse (RGN and/or RCN)
  - Have successfully completed Irish Children's Triage System training and competencies in the Department of Paediatric Emergency Medicine
  - Have received training and competencies for the 'Protocol for the Administration of Paracetamol by Nursing Staff in Triage' *(At the discretion of the CNF/CEF and CNM3 in the Department of Paediatric Emergency Medicine)*
  - Have up-to-date certificate in medication safety management training
- Clinical Nurse Managers
  - Ensure that nurses are aware of this protocol
  - Ensure that all nurses within their area(s) of responsibility attend all relevant training prior to using this protocol
- Clinical Nurse Facilitators/ Educators, Community Liaison Nurses, Shift Leaders in the CHI Department of Paediatric Emergency Medicine, Advanced Nurse Practitioners in the CHI Department of Paediatric Emergency Medicine
- Consultant and NCHD staff in the CHI Department of Paediatric Emergency Medicine

This protocol does not apply to:

- Nursing students
- Internship nursing students
- Higher Diploma in Children's Nursing students
- Staff other than those in the Department of Emergency Medicine

3.0 Definitions and Abbreviations

Abbreviations used in this protocol include:
mg – milligram
g – gram
mL – millilitre
kg - kilogram

4.0 Authorisation

This protocol is authorised by CHI at Crumlin Drugs and Therapeutics Committee for use by staff at CHI Department of Paediatric Emergency Medicine staff at Crumlin and Connolly

5.0 Specific Staff Responsibilities

- Staff included within the scope of this protocol, as outlined above, are responsible for the administration of the medication.
- A validated pain assessment tool (Appendix 1) must be utilized in triage if using paracetamol to manage pain. Pain score should be <6/10 (see inclusion criteria below).
- It is important for the nurse to consider the use of other non-pharmacological techniques to relieve pain. These may include immobilization, elevation of a limb or cryotherapy.
- Use of paracetamol as an antipyretic agent should be considered in children with a fever who appear distressed or unwell.
- Parents/guardian should be advised to inform the nurse if any adverse effects are experienced post administration.

6.0 Procedure

6.1 Procedure for administration of paracetamol

6.1.1 Inclusion Criteria

- **One single dose ONLY** is permitted to be administered in accordance with this protocol
- Patients must be ≥ 3 months of age
- No other paracetamol containing product has been administered in the previous 4 hours and the maximum daily dose has not/will not be exceeded
- Pyrexia≥38°Cwith symptoms of discomfort
- **OR** a pain score is identified on a validated pain score tool translating to mild to moderate pain (<6/10) (Appendix 1)

6.1.2 Exclusion Criteria

- **Patient is less than 3 months of age**
- Patients who are unable to be weighed
- Patients with an existing co-morbidity or receiving any regular prescribed medication
- Patients who have taken paracetamol in the last 4 hours (or have had 4 doses in the last 24 hours).

- Allergy to paracetamol (or any of excipients being given)
- Calpol® and Paralink® oral liquid contain sorbitol – not suitable for use in patients with rare hereditary problems of fructose intolerance, glucose-galactose malabsorption or sucrose iso-maltase insufficiency
- Avoid if any evidence of liver impairment
- Immunocompromised patients under the care of malignant Haematology/Oncology or Immunology, or any patient at risk of developing febrile neutropenia / receiving chemotherapy
- If the nurse has any concerns regarding the administration of paracetamol to a patient, he/she should contact a medical practitioner/registered nurse prescriber regarding appropriate therapy

Drug Interactions:
Despite the exclusion of patients on concurrent regular medications, the following drug interactions should be noted:

- Carbamazepine, rifampicin, phenytoin, phenobarbital possibly accelerates metabolism of paracetamol
- Colestyramine reduces absorption of paracetamol
- Metoclopramide increases rate of paracetamol absorption
- Prolonged regular use of paracetamol possibly enhances the anticoagulant effect of Warfarin.

This list is not exhaustive. For full details contact Pharmacy or see SPC www.hpra.ie

6.1.3 Preparation and Administration of Paracetamol

- Patients must be ≥ age 3 months
- Patient must be weighed in triage
- Following assessment by the triage nurse, he/she will make a clinical decision if the patient reaches the criteria for inclusion under this protocol
- The triage nurse determines the patient's allergy status and if there is any contraindication to paracetamol (see exclusion criteria)
- The triage nurse determines that the patient has not taken paracetamol in the last 4 hours (or has not taken paracetamol 4 times in the last 24 hours)
- The triage nurse calculates dose of paracetamol (as outlined in Table 1& Table 2 below). **Ensure that the individual dose does not exceed 15 mg/kg for oral dosing and 20mg/kg for rectal dosing**
- In discussion with the child/parent/guardian, a decision is made as to whether to administer paracetamol and which route oral/ rectal
- The triage nurse documents clearly: Date, time, and amount of medication administrated to the patient.
- Documentation is completed electronically in the triage section of Symphony and/or manually on ED single page Kardex
- The triage nurse obtains the medication from the locked medication cabinet in triage room/PED Or the automated dispensing cabinet in the UCC
- The triage nurse confirms the patient's identification with the parent/guardian and the identification wristband by checking a minimum of three identifiers: full name, date of birth and

Patient ID. The patient's name and date of birth are confirmed with the parent/guardian (and in addition with the patient where appropriate)

- The triage nurse administers the appropriate medication to the patient
- The triage nurse gives an explanation to patient and/or parent/guardian regarding the use of paracetamol:
  - Advice to parent(s)/guardian) if purchasing paracetamol to not exceed the stated dose.
  - Parent(s)/guardian (s) should be advised not to administer other paracetamol containing products concurrently.
  - Advice given that if the patient has any reaction to the paracetamol to attend their GP or an Emergency Department/Urgent Care Centre.
- Any incidents/good catches/near misses should be reported via local reporting process

Any patient who falls within the exclusion criteria or who declines paracetamol should be referred to a doctor on duty to have appropriate analgesia/antipyretic prescribed. This must be documented clearly to ensure complete and accurate record of all doses administered.

6.1.4 Dosage

- **A single dose of 15mg/kg** may be administered (caution must be taken for obese/overweight patients that that the maximum dose is not exceeded)
- For oral doses please refer to Table 1; for rectal doses please refer to Table 2 below
- Doses detailed in Table 1& 2 below are weight-based doses in accordance with CHI Formulary (rounded to the nearest measurable dose)
- Liquid paracetamol medicines for use with children should be administered with a suitable measuring device to assist accurate administration
- Suppositories **must not be cut**. Suppositories must not be used if the patient has a history of a bleeding disorder or if the patient is neutropenic(risk of infection)
- Suppositories must not be administered to patients under the care of malignant Haematology / Oncology. (Administration of paracetamol to malignant haematology / oncology patients is not permitted in accordance with this protocol – see exclusion criteria above)

Oral Paracetamol Dosing

**** The doses in the table below have been rounded up or down for ease of measurement. All doses are approximately 15mg/kg ****

- For patients <10kg, round weight to the nearest 0.5kg
- For patients >10kg, round weight to the nearest kg

Weight	Oral Dose (15mg/kg, rounded to nearest measurable dose)
5kg	75mg
5.5kg	80mg
6kg	90mg
6.5kg	100mg
7kg	110 mg
7.5kg	115mg
8kg	120mg
8.5kg	130mg
9kg	135 mg
9.5kg	145mg
10kg	150mg
11kg	160mg
12kg	180mg
13kg	190mg
14kg	210mg
15kg	230 mg
16kg	240mg
17kg	250mg
18kg	270mg
19kg	280mg
20kg	300mg
21kg to<26kg	350 mg
26kg to <30kgs	400mg
30kg to<46kgs	500 mg
46kg to <60kgs	750mg
≥60kg	1g

Table 1: Oral Paracetamol Dosing

Rectal Paracetamol dosing

**** The doses in the table below have been rounded up or down for ease of measurement. All doses are based on a 15mg/kg dose ****

Some doses may be higher or lower, in order to be measurable. No dose exceeds 20mg/kg

- For patients <10kg, round weight to the nearest 0.5kg
- For patients >10kg, round weight to the nearest kg

Weight	Rectal dose (15mg/kg, rounded to nearest available suppository size)
5kg - <7kg	75mg
7kg to <11kg	125mg
11kg to <15kg	200mg (125mg +75mg)
15kg to <18kg	250mg
18kg to <27kg	325mg (250mg +75mg)
27kg to <41kg	500mg
41kg to < 60kg	750mg (500mg +250mg)
≥60kg	1g (2 x 500mg)

Table 2: Rectal Paracetamol Dosing

Products available:

- Paralink® Oral Solution 120mg/5mL (licensed for children 2 months to ≤ 6 years)
- Calpol® SF Suspension 120mg/5mL (licensed for children 2 months to ≤ 6 years)
- Calpol® 6-Plus Suspension 250mg/5mL (licensed for children >6 years)
- Paracetamol Tablets 500mg (licensed >6 years)
- Paracetamol (Tipol®) Suppositories 75mg (licensed >3kg), 125mg (licensed >7kg), 250mg (licensed >13kg)
- Paralink® Suppositories 500mg (Licensed >6years)

Note: Paracetamol Suppositories 30mg are unlicensed and therefore not appropriate for use by nursing staff in triage.

Potential Adverse Effects:

Side effects are rare but include hypersensitivity reactions including skin rash, flushing, anaphylaxis and bronchospasm; abnormal hepatic function; severe coetaneous adverse reactions (SCARs); hypotension; malaise. Rare reports of blood dyscrasias including thrombocytopenia and agranulocytosis – not causally related to paracetamol. Contact Pharmacy for further information.

Overdose:

Immediate medical attention is required in the event of overdose, even if there are no significant early symptoms.

Liver damage and less frequently renal damage can occur following an overdose. Symptoms of an overdose can include, but are not limited to, nausea and vomiting, right side subcostal pain and tenderness.

For specific management of paracetamol overdose/poisoning consult the National Poisons Information Centre 01 8092566. Information is also available on Toxbase via the National Poisons Information Centre Website https://www.poisons.ie/Professionals

Action in event of adverse reaction

- Inform relevant doctor/ senior nurse on duty of adverse reaction. The patient should be reviewed by the relevant doctor and a plan of action documented and completed
- Monitor patient closely and record vital signs as necessary
- Document adverse reaction in patient notes
- Inform the patient and/or parent/guardian of what has happened
- A medication incident form should be completed
- The health care professional who discovers the adverse reaction should report this to the Health Products Regulatory Authority via the website www.hpra.ie using the error reporting form at https://www.hpra.ie/homepage/about-us/report-an-issue/human-adverse-reaction-form. **Refer to the CHI Medication Policy for more information**

Action in the event of an error or near miss

- Complete incident form and follow local medication error reporting process

6.1.5 Instruction for Storage and Handling of Paracetamol

To be stored in a locked cabinet in the triage room or locked medicine cabinet in the PED or the automated dispensing cabinet in the UCC; triage nurses to hold the key or swipe access as applicable.

7.0 Implementation and Education Plan

This protocol will be disseminated using existing communication structures within CHI.

8.0 Evaluation and Audit

An audit will be carried out every 6 months to validate adherence to this protocol and evaluate metrics and safety. This audit will be carried out in collaboration by Pharmacy and Nursing from the participating departments.

Appendix 1:

FLACC BEHAVIOURAL PAIN ASSESSMENT TOOL FOR USE IN CHILDREN 2 MONTHS to 7 YEARS			
CATEGORIES	0	1	2
FACE	No particular expression or smile	Occasional grimace or frown withdrawn, disinterested	Frequent to constant quivering chin, clenched jaw
LEGS	Normal position or relaxed	Uneasy, restless, tense	Kicking, or legs drawn up
ACTIVITY	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid or jerking
CRY	No cry (awake or asleep)	Moans or whimpers; occasional complaint	Crying steadily, screams or sobs, frequent complaints
CONSOLABILITY	Content relaxed	Reassured by occasional touching, hugging or being talked to, distractible	Difficult to console or comfort

Figure 1: FLACC Behavioural Pain Assessment Tool

Figure 2: Wong-Baker FACES Pain Rating Scale

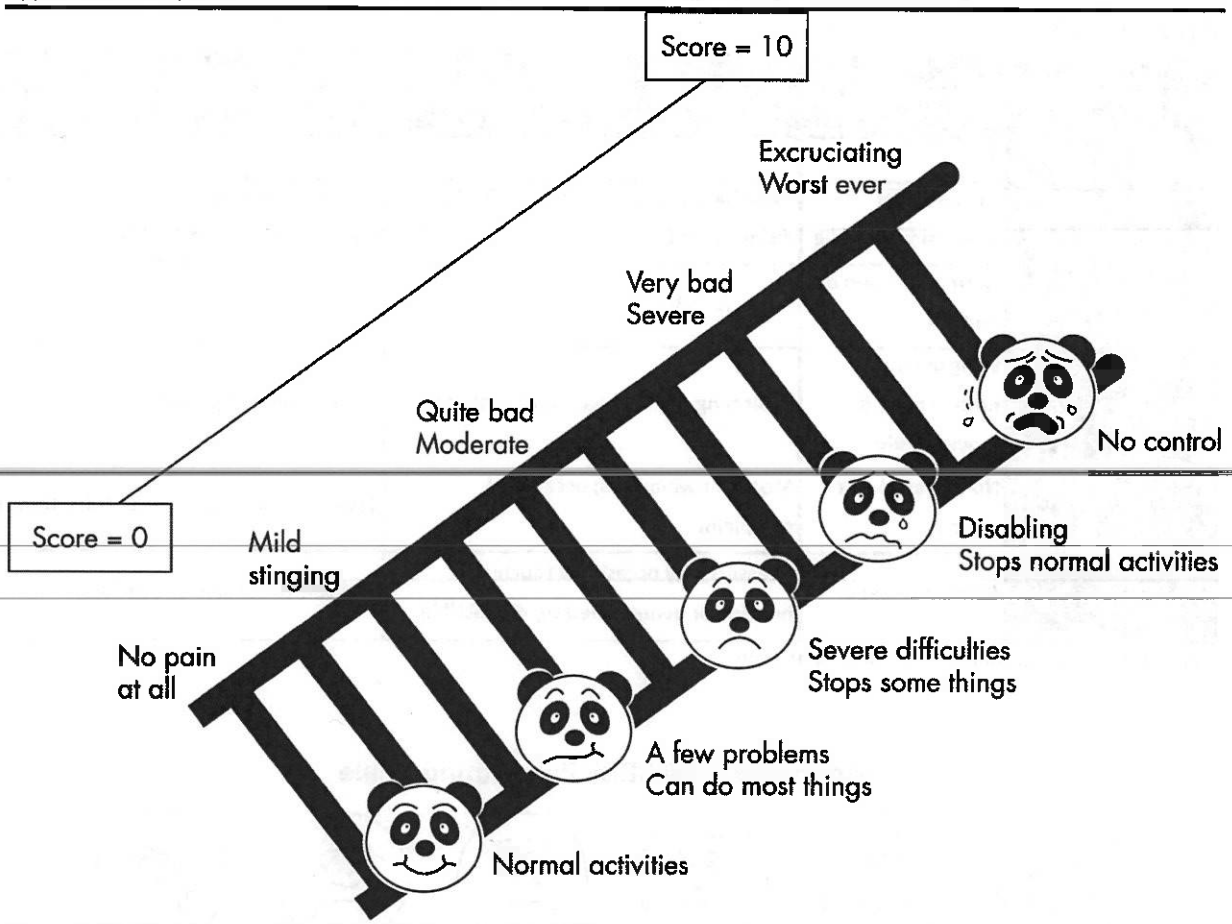

Figure 3: Modified Advanced Paediatric Life Support Pain Ladder

Pain Assessment Tools to be used – Wong Baker, FLACC, Ladder