

Paracetamol - Oral Loading Doses of in Adults prior to Theatre - Full Clinical Guideline

Reference No: CG-T/2014/128

Aims

- Define the patient groups that this guideline relates to
- Discuss the evidence, practicalities and rationale for therapy.

Patient Groups

- All adult patients (daycase and inpatients) prior to theatre

Exclusions

- Allergic to paracetamol or ingredients
- Severe hepatic or renal disease
- Patients receiving regular paracetamol up to the point of admission

Practicalities

Oral loading doses will be administered by nursing staff on the ward or daycase unit prior to the operation:

Adult Patients <65 kg = 1500mg

Adult Patients >65 kg = 2000mg

The weight-banding will ensure doses are within an upper limit of 30mg/kg

The dose is to be prescribed by the **anaesthetist** on the "ONCE ONLY MEDICATIONS" section of the drug chart. The PRN or regular section of the chart **MUST** be endorsed so the patient cannot receive more than 5 grams of paracetamol in the first 24 hours and a maximum of 4grams daily thereafter.

The patient must not receive the next dose of paracetamol until at least SIX hours after the loading dose.

A loading dose of paracetamol >1 gram is above recommended BNF doses.¹ This guidance supports unlicensed use of 5 grams over the **first 24 hours only**.

Rationale

The rationale for giving loading doses of paracetamol pre-operatively is to provide a reduction in post-operative pain and reduced indication for IV paracetamol. It is also hoped that this will translate into a reduction in quantities of opioids given post-op.

An **enhanced** 'opioid-sparing' effect has not been confirmed in the literature for the 2-gram loading dose but a reduction in PCA morphine usage of up to 20% has been reported for standard dosing of oral paracetamol.⁶ Given that 2-gram loading doses have improved quality and duration of analgesia in the only study to compare 1gram vs. 2gram, it is reasonable to assume that some additional opioid sparing may be seen.

The oral loading dose clearly offers reduced costs against IV paracetamol usage (difference of approx £1.80 per dose; September 2009). Moreover, 2 hours following IV dosing the analgesic effect drops significantly while the effects of oral dosing are sustained.⁷

Evidence

One study in adults undergoing third molar dental surgery reported 2grams IV (n=132) was significantly more effective than 1gram IV (n=132) in terms of pain relief and duration of analgesia. There was no difference in tolerability and elevations in ALT/AST were seen in two patients receiving 1-gram compared with only 1 patient in the loading dose group.²

A pharmacokinetic study involving 26 healthy subjects reported IV paracetamol 2-grams being given as a loading dose followed by 1gram every 6 hours. Paracetamol levels for all patients were below 150mg.litre⁻¹ which is often considered to be the threshold for hepatotoxicity. There was absence of accumulation, no clinical adverse effects or changes in biochemistry, including LFTs.³

There is evidence of use of 30mg/kg loading doses of paracetamol in paediatric patients used for analgesia and fever in terms of efficacy and tolerability. In many Trusts this is common practice.^{4,5} However, it is not clear how transferable this is to adult patients.

References

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Documentation Control

Reference Number	Version:		Status	
CG-T/2014/128	3.0.0		Final	
Version / Amendment History	Version	Date	Author	Reason
	2.0.0	13/12/2014	Consultant Anaesthetist	
	3.0.0	01/06/2021	Reviewed by Dr Stefan Valdinger	Review due, no changes required
Intended Recipients: State who the Clinical Guideline is aimed at – staff groups etc.				
Training and Dissemination: How will you implement the Clinical Guideline, cascade the information and address training				
Development of Guideline: Job Title: Consultant Anaesthetist				
Consultation with: Consultant Anaesthetists and Surgical Services Pharmacists				
Linked Documents: State the name(s) of any other relevant documents				
Keywords:				
Business Unit Sign Off			Group:	
			Date:	
Divisional Sign Off			Group: Claire Weights, CGG Chair	
			Date: 27/5/2021	
Date of Upload			01/06/2021	
Review Date			June 2024	
Contact for Review			Dr Stefan Valdinger, Consultant Anaesthetist	