

Paracetamol IV to oral switch protocol

This is a working document and any changes that become necessary to this policy must be
Notified in writing to the Medicine Management Group via the Chief Pharmacist,
East Cheshire Trust

Policy Title:	Paracetamol IV to oral switch protocol		
Executive Summary:	This document provides nursing, pharmacy and medical staff with a clear framework of how to switch from IV to oral paracetamol. It should be used in conjunction with the Medicines Policy.		
Supersedes:	Protocol for the switch of intravenous paracetamol to the oral formulation Version 2		
Description of Amendment(s):	<p>The policy is now fully compliant with the Trust Policy on Procedural Documents.</p> <ul style="list-style-type: none"> -Cost of paracetamol preparations -Contraindications -Safety warning administration of IV paracetamol 		
This policy will impact on:			
All health professionals working on wards where administration of paracetamol is implemented			
Financial Implications:			
None.			
Policy Area:	Medicines Management	Document Reference:	
Version Number:	3	Effective Date:	May 2015
Issued By:	Chair of Medicines Management Group	Review Date:	May 2018
Author:	Jabeen Razzaq-Sheikh	Impact Assessment Date:	
APPROVAL RECORD			
	<u>Committees / Group</u>	<u>Date</u>	
Consultation:			
	Specialist Advice (if required)	N/A	
	Other (please specify) Medicines Management Group	May 2015	
Received for information:	Trust SQS Committee	July 2015	

Paracetamol IV to oral switch protocol

Introduction

Intravenous (IV) paracetamol is indicated for the short-term treatment of moderate and severe pain following surgery and for the treatment of fever.¹ Oral (PO) administration of paracetamol is as effective as IV administration, and should therefore be used as first-line route of administration.¹ The bioavailability of paracetamol varies depending on the route of administration. IV paracetamol provides onset of pain relief within 5 to 10 minutes after administration¹ and due to its 100% bioavailability there may be a higher risk of toxicity in patient's with renal or hepatic insufficiency.

Oral (PO) preparations are completely absorbed from the gastrointestinal tract with a peak plasma concentration in 30 to 60 minutes. Clinical trials of intravenous paracetamol have concentrated on the morphine-sparing effects of IV paracetamol and have indicated that although morphine consumption was reduced, pain control was no greater.²

IV paracetamol is justified only when the PO routes are unavailable.³

The IV route of administration is associated with a higher incidence of anaphylactic reactions.² Also, the therapeutic value of the parenteral route is not supported by a thorough comparative evaluation.⁴

In the financial year 2014-2015 the Trust spent £11500 on IV paracetamol. This did not include the cost of the giving sets, increased nursing time to administer and the inherent risks of IV therapy

The cost of the maximum daily dose of generic IV paracetamol is £2.36 per day (excludes costs of giving sets) as compared to the cost of a maximum daily dose of the oral tablets at £0.04 per day. If patients have difficulty swallowing then Calpol® melts (paracetamol 250mg) may be more appropriate at a cost of £2.56 for a maximum total daily dose. (slightly more expensive compared to IV but saves on nursing time, no giving sets required and less risks compared to the IV route) Please note the cost of maximum daily of the suppositories are £35.05

These differences highlight the potential saving in choosing a cheaper but equally efficacious oral tablet over the IV route.

The availability of oral administration can be determined by whether the patient is pre-operative and 'nil per mouth'. Factors such as dysphagia and vomiting are additional considerations.

Indications for the use of IV paracetamol

- When patients have obvious impairment/ inability to absorb orally administered paracetamol
- Significant/ prolonged vomiting (and/or nausea) secondary to e.g. post operative nausea and vomiting / postoperative ileus/ bowel obstruction/ short bowel syndrome
- It is only to be used when administration by the intravenous route is clinically justified by the urgent need to treat pain or hyperthermia and/or when other routes of administration are not possible
- Moderate-severe obstructive sleep apnoea
- Thoracic/upper abdominal surgery and impaired pulmonary function
- Diagnostic dilemma e.g. severe sepsis

Exclusion criteria for the use of IV paracetamol

- Allergy
 - Oral route available
-

Contraindications for the use of IV paracetamol

- in patients with hypersensitivity to paracetamol or to propacetamol hydrochloride (prodrug of paracetamol) or to one of the excipients.

• In cases of severe hepatocellular insufficiency.
(Refer to SPC)

Cautions for the use of IV paracetamol

RISK OF MEDICATION ERRORS

Take care to avoid dosing errors due to confusion between milligram (mg) and millilitre (mL), which could result in accidental overdose and death

- Hepatocellular insufficiency.
- Chronic Alcoholism
- Severe renal insufficiency (creatinine clearance \leq 30ml/min).
- Chronic malnutrition (low reserves of hepatic glutathione).
- Dehydration.
- Concomitant use of paracetamol (4 g per day for at least 4 days) with oral anticoagulants may lead to slight variations of INR values. In this case, increased monitoring of INR values should be conducted during the period of concomitant use as well as for 1 week after paracetamol treatment has been discontinued.

(Refer to SPC)

Please note:

- **The dose for adolescents and adults weighing less than 50 kg is:**

Paracetamol 15 mg/kg per administration, i.e. 1.5 ml solution per kg up to four times a day. The minimum interval between each administration must be 4 hours. The maximum daily dose must not exceed 60 mg/kg (without exceeding 3 g).

- IV Paracetamol may only be used in cases where the use of oral/enteral route cannot be used. The reason for use must be documented in the patient's clinical notes.
- Combination prescribing with **po/pr/iv** is **NOT** permitted.

- I.V Paracetamol must be reviewed **every 24 hours** and documented in the patient's clinical notes as having been reviewed.
- The rectal route is not cost effective when compared to the oral /IV route and is also inappropriate for most postoperative colo-rectal surgery.
- All prescribers, non medical prescribers and pharmacists may implement the oral to IV switch. **See Appendix 1.**

Switching over to the oral route

- I.V paracetamol should be discontinued as soon as possible.
- It is suggested that the oral medication route should be considered when:
 - The patient is able to tolerate 30-60ml of oral fluids hourly and is taking other oral medication
 - The patient is believed by the team to be able to absorb oral medication
 - Naso-gastric tube in-situ has been spigotted [on instruction of the surgical team]
- Assess if the patient can swallow. If tablets are not appropriate consider if paracetamol suspension or soluble tablets are acceptable.
- If the patient has difficulty swallowing it may be more appropriate to try **Calpol® paracetamol 250mg melts.**
- If oral paracetamol is not effective then consider using an additional/alternative analgesic if appropriate.
- The rectal route is not cost effective when compared to the IV route and is also inappropriate for most postoperative colo-rectal surgery.

Pharmacist Checklist for switching patients to IV to oral

- Please ensure the switch is appropriate using the guidance above. Any further queries contact the team.
- Cross-through the paracetamol IV prescription with a single clear line in green pen. Sign, date and endorse "pharmacist switch as per **paracetamol IV to oral switch guidelines**".
- In the next available drug chart line, write paracetamol 1g PO or NG FOUR TIMES A DAY. Ensure patient is not on any when required paracetamol or paracetamol containing products.
- Sign and date the prescription. Use a blue or black pen. Document the switch in the medical notes.

References

1. Summary of product characteristics, Perfalgan® solution for infusion, 10mg/ml. Available from www.medicines.org.uk Accessed 9th April 2015.
2. Topol A. London New Drugs Group Briefing Document. 2004. Updated 2004. Cited. Available from: <http://www.nelm.nhs.uk/en/NeLM-Area/Evidence/Drug-Specific-Reviews/495087/Post.aspx?query=%2520Intravenous%2520paracetamol&rank=5>.
3. Adult Medicines Guide, AMNCH and Naas General Hospital 2008/9.
4. Anon. Paracetamol for injection. New formulation: why so widely used? *Prescriber Int* 2003; 12 (67): 178.
5. Anaesthesia UK-Intravenous Paracetamol Dr.Adam Woo Available from <http://www.frca.co.uk/article.aspx?articleid=101023>. Accessed 20th Nov 2010

Appendix 1

Guidelines on IV to oral switch for paracetamol

To: All prescribers, non medical prescribers and pharmacists
From: Medicines Management Group
Date: May 12th 2015

All pharmacists may implement this guideline. This protocol allows pharmacists to cross off IV paracetamol on the drug chart and re-prescribe via the oral or nasogastric route.

When doing this switch pharmacists must endorse the cardex as PER IV PARACETAMOL TO ORAL SWITCH POLICY.

All prescribers, non medical prescribers and pharmacists should read this protocol in conjunction with the SPC and BNF guidance on the use of IV paracetamol.

A. Pharmacists checklist for switching IV paracetamol to oral

1) Please ensure the appropriateness of using IV paracetamol using the guidance below:

- I.V Paracetamol should be discontinued as soon as possible.
- It is suggested that the oral medication route should be considered when:
 - Patient is able to tolerate 30-60ml of oral fluids hourly and is taking other oral medication
 - Patient is believed by the team to be able to absorb oral medication
 - Naso-gastric tube in-situ has been spigotted [on instruction of the surgical team]
- Assess if the patient can swallow. If tablets are not appropriate will suspension or soluble tablets be acceptable.
- If the patient has difficulty swallowing it may be more appropriate to try **Calpol®** paracetamol **250mg melts**.
- If oral paracetamol is not effective then using an additional/alternative analgesic is the appropriate course of action.
- The rectal route is not cost effective when compared to the IV route and is also inappropriate for most postoperative colo-rectal surgery.

2) If the switch is appropriate

- Cross-through the paracetamol IV prescription with a single clear line in green pen. Sign, date and endorse "pharmacist switch as per **paracetamol IV to oral protocol**". In the next available drug chart line, write paracetamol 1g PO or NG FOUR TIMES A DAY. Ensure patient is not on any WHEN required paracetamol or paracetamol containing products.
- Sign and date the prescription. Use a blue or black pen. Document the switch in the medical notes.

Equality Analysis (Impact assessment)

1. What is being assessed?

East Cheshire NHS Trust Paracetamol IV to oral switch policy

Details of person responsible for completing the assessment:

Jabeen Razzaq-Sheikh
Lead Pharmacist for Surgical Specialties, Clinical Support & Diagnostics Services

State main purpose or aim of the policy, procedure, proposal, strategy or service:

(Usually the first paragraph of what you are writing. Also include details of legislation, guidance, regulations etc. which have shaped or informed the document)

In the financial year 2014-2015 the Trust spent £11500 on IV paracetamol .This did not include the cost of the giving sets, increased nursing time to administer and the inherent risks of IV therapy
 did not include the cost of the giving sets, increased nursing time to administer and the inherent risks of IV therapy. The policy is a guide for all medical and nursing staff on the appropriate use of IV paracetamol and includes a guide for pharmacists to switch from IV paracetamol to oral paracetamol

2. Consideration of Data and Research

To carry out the equality analysis you will need to consider information about the people who use the service and the staff that provide it.

2.1 Give details of RELEVANT information available that gives you an understanding of who will be affected by this document

Cheshire East (CE) covers Eastern Cheshire CCG and South Cheshire CCG. Cheshire West & Chester (CWAC) covers Vale Royal CCG and Cheshire West CCG. In 2011, 370,100 people resided in CE and 329,608 people resided in CWAC.

Age: East Cheshire and South Cheshire CCG's serve a predominantly older population than the national average, with 19.3% aged over 65 (71,400 people) and 2.6% aged over 85 (9,700 people).

Vale Royal CCGs registered population in general has a younger age profile compared to the CWAC average, with 14% aged over 65 (14,561 people) and 2% aged over 85 (2,111 people).

Since the 2001 census the number of over 65s has increased by 26% compared with 20% nationally. The number of over 85s has increased by 35% compared with 24% nationally.

Race:

- In 2011, 93.6% of CE residents, and 94.7% of CWAC residents were White British
- 5.1% of CE residents, and 4.9% of CWAC residents were born outside the UK – Poland and India being the most common
- 3% of CE households have members for whom English is not the main language (11,103 people) and 1.2% of CWAC households have no people for whom English is their main language.
- Gypsies & travellers – estimated 18,600 in England in 2011.

Gender: In 2011, c. 49% of the population in both CE and CWAC were male and 51% female. For CE, the assumption from national figures is that 20 per 100,000 are likely to be transgender and for CWAC 1,500 transgender people will be living in the CWAC area.

Disability:

- In 2011, 7.9% of the population in CE and 8.7% in CWAC had a long term health problem or disability
- In CE, there are c.4500 people aged 65+ with dementia, and c.1430 aged 65+ with dementia in CWAC. 1 in 20 people over 65 has a form of dementia
- Over 10 million (c. 1 in 6) people in the UK have a degree of hearing impairment or deafness.
- C. 2 million people in the UK have visual impairment, of these around 365,000 are registered as blind or partially sighted.
- In CE, it is estimated that around 7000 people have learning disabilities and 6500 people in CWAC.
- Mental health – 1 in 4 will have mental health problems at some time in their lives.

Sexual Orientation:

- CE - In 2011, the lesbian, gay, bisexual and transgender (LGBT) population in CE was estimated at 18,700, based on assumptions that 5-7% of the population are likely to be lesbian, gay or bisexual and 20 per 100,000 are likely to be transgender (*The Lesbian & Gay Foundation*).
- CWAC - In 2011, the LGBT population in CWAC is unknown, but in 2010 there were c. 20,000 LGB people in the area and as many as 1,500 transgender people residing in CWAC.

Religion/Belief:

The proportion of CE people classing themselves as Christian has fallen from 80.3% in 2001 to 68.9% in 2011 and in CWAC a similar picture from 80.7% to 70.1%, the proportion saying they had no religion doubled in both areas from around 11%-22%.

- **Christian:** 68.9% of Cheshire East and 70.1% of Cheshire West & Chester
- **Sikh:** 0.07% of Cheshire East and 0.1% of Cheshire West & Chester
- **Buddhist:** 0.24% of Cheshire East and 0.2% of Cheshire West & Chester
- **Hindu:** 0.36% of Cheshire East and 0.2% of Cheshire West & Chester
- **Jewish:** 0.16% of Cheshire East and 0.1% of Cheshire West & Chester
- **Muslim:** 0.66% of Cheshire East and 0.5% of Cheshire West & Chester
- **Other:** 0.29% of Cheshire East and 0.3% of Cheshire West & Chester
- **None:** 22.69% of Cheshire East and 22.0% of Cheshire West & Chester
- **Not stated:** 6.66% of Cheshire East and 6.5% of Cheshire West & Chester

Carers: In 2011, nearly 11% (40,000) of the population in CE are unpaid carers and just over 11% (37,000) of the population in CWAC.

2.2 Evidence of complaints on grounds of discrimination: (Are there any complaints or concerns raised either from patients or staff (grievance) relating to the **policy, procedure, proposal, strategy or service** or its effects on different groups?)

N/A

2.3 Does the information gathered from 2.1 – 2.3 indicate any negative impact as a result of this document?

No

3. Assessment of Impact

Now that you have looked at the purpose, etc. of the **policy, procedure, proposal, strategy or service** (part 1) and looked at the data and research you have (part 2), this section asks you to assess the impact of the **policy, procedure, proposal, strategy or service** on each of the strands listed below.

RACE:

From the evidence available does the **policy, procedure, proposal, strategy or service** affect, or have the potential to affect, racial groups differently? Yes No

Explain your response: If the patient's first language is not /English, trust staff should follow the interpretation policy. The patient information leaflet can be translated into other languages.

GENDER (INCLUDING TRANSGENDER):

From the evidence available does the **policy, procedure, proposal, strategy or service** affect, or have the potential to affect, different gender groups differently? Yes No

Explain your response: Staff will respect patient's privacy and dignity and for further guidance can view the trust privacy and dignity policy.

DISABILITY

From the evidence available does the **policy, procedure, proposal, strategy or service** affect, or have the potential to affect, disabled people differently? Yes No

Explain your response: For patients who are blind or partially sighted, information and instructions can be issues in audio format and carers involved to support patients. Information can also be supplied in large print or Braille – follow the trust interpretation policy. For patients with learning disabilities there is a picture communications book available on wards to help explain the process.

AGE:

From the evidence available does the **policy, procedure, proposal, strategy or service**, affect, or have the potential to affect, age groups differently? Yes No

Explain your response: Written into the policy are instructions on using half unit syringes for children having smaller doses. Picture communication books can be used to aid explanation. Carers can be involved to support older and younger patients.

LESBIAN, GAY, BISEXUAL:

From the evidence available does the **policy, procedure, proposal, strategy or service** affect, or have the potential to affect, lesbian, gay or bisexual groups differently? Yes No

Explain your response: No impact identified, same sex carers will be involved in the same way as heterosexual partners.

RELIGION/BELIEF:

From the evidence available does the **policy, procedure, proposal, strategy or service** affect, or have the potential to affect, religious belief groups differently? Yes No

Explain your response: Staff will be mindful of the cultural and religious requirements of some to remain covered and needing a female staff to administer to a female patient. Privacy and dignity will be promoted at all times. All drugs will be checked for porcine content for Muslim patients and this will be discussed with the patient.

CARERS:

From the evidence available does the **policy, procedure, proposal, strategy or service** affect, or have the potential to affect, carers differently? Yes No

Explain your response: Carers will be involved as detailed above.

OTHER: EG Pregnant women, people in civil partnerships, human rights issues.

From the evidence available does the **policy, procedure, proposal, strategy or service** affect, or have the potential to affect any other groups differently? Yes No

Explain your response: No other impacts identified. -

4. Safeguarding Assessment - CHILDREN

a. Is there a direct or indirect impact upon children? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
b. If yes please describe the nature and level of the impact (consideration to be given to all children; children in a specific group or area, or individual children. As well as consideration of impact now or in the future; competing / conflicting impact between different groups of children and young people:
c. If no please describe why there is considered to be no impact / significant impact on children

5. Relevant consultation

*Having identified key groups, how have you consulted with them to find out their views and that the made sure that the **policy, procedure, proposal, strategy or service** will affect them in the way that you intend? Have you spoken to staff groups, charities, national organisations etc?*

N/A

6. Date completed: May 2015 Review Date: May 2018

7. Any actions identified: Have you identified any work which you will need to do in the future to ensure that the document has no adverse impact?

Action	Lead	Date to be Achieved

8. Approval – At this point, you should forward the template to the Trust Equality and Diversity Lead lynbailey@nhs.net

Approved by Trust Equality and Diversity Lead: 

Date: 30.6.15