Document Type:	Guideline	
Reference Number: **1612**	Version Number: **4**	Next Review Date: **22 April 2029**
Title:	**Prescribing at the end of life for patients with reduced renal function (CKD stages 4 & 5)**	
Document Author:	Consultant in Palliative Medicine	
Applicability:	All patients	

General Principles

- For the purpose of this document, patients fall into two groups:
    - those dying from Chronic Kidney Disease
    - those dying from a life limiting illness such as cancer who develop renal impairment

- Patients dying from end stage Chronic Kidney Disease often only require low doses of opioids for symptom management.

- Patients dying from cancer who develop renal impairment are more likely to have pre-existing opioid analgesic regimes.

- In renal impairment, due to impaired metabolism and excretion, medications are often required in lower doses and with prolonged dose intervals.

- There is increased susceptibility to central effects of drugs due to increased blood brain barrier permeability in uraemia.

- Excretion of some opioids, particularly Morphine, is impaired. This can lead to signs of opioid toxicity including myoclonic jerks, agitation, drowsiness, confusion and respiratory depression.

- If an opioid is necessary, it is important to:

    - Start at lower doses than usual
    - Consider increasing the intervals between doses
    - Monitor closely for opioid toxicity

eGFR

- Prescribers often over-estimate eGFR in the elderly and in patients with cachexia and low muscle bulk (many palliative care patients).

- Extra care should be taken in prescribing for patients with severely reduced renal function (eGFR <30/CKD stage 4) but this is **not** a rigid cut off.

- Ideally, a renal friendly opioid should be commenced in an opioid naive patient with severely reduced renal function (eGFR <30)

- In patients with an eGFR< 30 it is not imperative to immediately switch opioid if symptoms are well controlled on their current regime and they do not exhibit symptoms of opioid toxicity: such patients do require increased vigilance and a low threshold to switch to a more renal friendly opioid if opioid toxicity is suspected.

- For patients with End Stage Renal Failure (eGFR <15,CKD stage 5), vigilance about choice of drugs, particularly opioids, is necessary

- Symptoms as a result of uraemia may be difficult to distinguish from symptoms of opioid toxicity.

- Concern about a low eGFR should not stop or delay the use of opioid analgesia for symptom control.

These guidelines are based on best practise and evidence based.

References:

1 A systematic review of the use of opioid medication for those with moderate to severe cancer pain and renal impairment: A European Palliative Care Research Collaborative opioid guidelines project. S King, K Forbes, GW Hanks, CJ Ferro & EJ Chambers. *Palliative Medicine 2011; 25(5): 525-552*

2 Symptom management for the adult patient dying with advanced chronic kidney disease: A review of the literature and development of evidence-based guidelines by a United Kingdom Expert Consensus Group. C Douglas, FEM Murtagh, EJ chambers, M Howse & J Ellershaw. *Palliative Medicine 2009; 23: 103-110*

3 Chambers EJ, Brown E, Germain M. *Supportive Care for the Renal Patient*, 2nd edition. Oxford: Oxford University Press, 2010.

4 Ashley C, Dunleavy A; *The Renal Drug Handbook.* Radcliffe Publishing Ltd; 5th Edition 2018

5 Palliative Care Formulary (PCF) 9th Edition 2025

For advice on prescribing and symptom management contact the Specialist Palliative Care Team

Hospital Specialist Palliative Care Team:

- **Secretary 01803 655056**

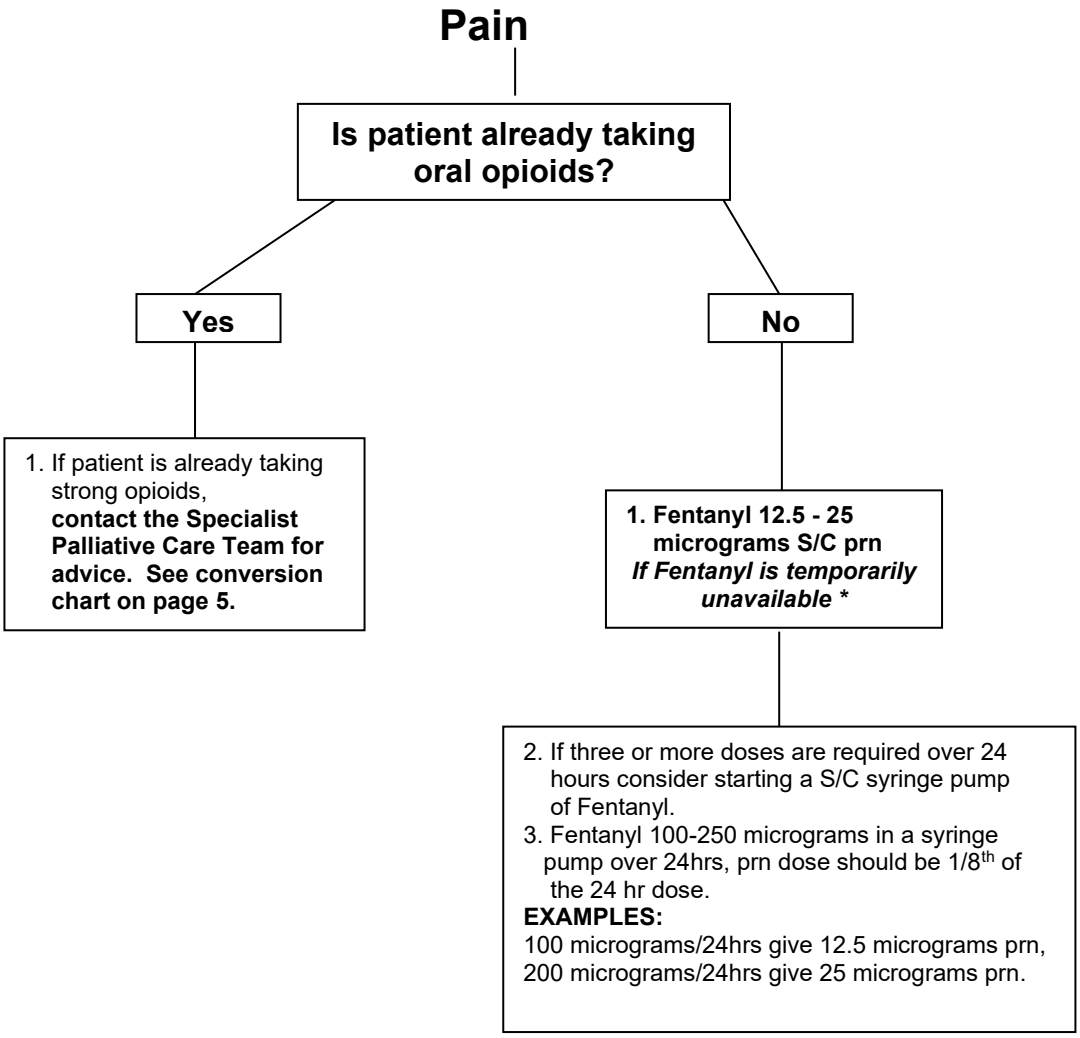
- **Answer phone 01803 655042**

- **Bleep individual team members via switchboard**

Rowcroft Specialist Palliative Care Team:

- **Medical Secretary 01803 210810 (Monday to Friday, 9-5)**

- **24-hour line 01803 210800 (Calls go through to the hospice. The senior nurse can ask the doctor to call you back)**



SUPPORTIVE INFORMATION:

For advice on prescribing and symptom management contact the Specialist Palliative Care Team

1. Many of the opioid analgesics and their metabolites may accumulate in renal impairment causing toxicity with myoclonic jerks, profound narcosis and respiratory depression. Morphine and its metabolites are most likely to cause toxicity. Fentanyl and Alfentanil are less likely to cause these problems, as their metabolites are not active. The duration of effect from Morphine and Oxycodone may last longer than in a patient with normal renal function.

2. *If Fentanyl is temporarily unavailable give:

   a. Oxycodone 1-2 milligrams S/C prn

   or

   b. Morphine 1-2 milligrams S/C prn

3. Fentanyl and Alfentanil are short acting when given S/C prn. As an alternative breakthrough medication, Oxycodone may be more renal friendly than Morphine and is longer acting than Fentanyl and Alfentanil. Caution is still required as Oxycodone has active metabolites and will accumulate in renal impairment. In some patients, it may be more appropriate to provide

Oxycodone S/C prn (at reduced dose e.g. 50% and increased dose interval e.g. 6-8 hourly). This may be necessary for patients with cancer pain who develop renal impairment.

4. If the Fentanyl dose exceeds 500 micrograms per 24 hours there may be problems with volumes of prescribed medication fitting into the syringe pump. This is relevant for those patients on higher doses of opioids e.g. cancer patients on pre-existing analgesic regimes who develop renal impairment. In these situations, Alfentanil is a more appropriate opioid than Fentanyl to use. Refer to opioid conversion table on page 5.

5. For patients already on Fentanyl or Buprenorphine TD patches it is usually recommended that the patch is not removed. Continue to change the patch at prescribed intervals. Additional opioid is given, as appropriate, via the syringe pump. Do not forget to calculate the prn opioid dose based on the total 24 hours opioid dose (i.e. patch and syringe pump doses added together).

6. Anticipatory prescribing in this manner will ensure that in the last hours/days of life there is no delay responding to a symptom if it occurs.

NHS Torbay and South Devon NHS Foundation Trust

PRESCRIBING IN PALLIATIVE CARE: A GUIDE TO EQUIVALENT DOSES FOR OPIOID DRUGS

This is to be used as **an approximate guide** rather than a set of definitive equivalences. Some of these doses have by necessity been rounded up or down to fit in with the preparations available, including adjustment of doses for liquid and injectable medications to optimise ability to dispense accurately.

Oral Morphine			**Subcutaneous Morphine**		**Oral Oxycodone**			**Subcutaneous Oxycodone**		**Approximate TD Fentanyl patch micrograms/hr**	**Subcutaneous Alfentanil**		**Subcutaneous Fentanyl**	
4 hr dose (mg)	12hr SR dose (mg)	24hr Total dose (mg)	4 hr dose (mg)	24 hr total dose (mg)	4hr dose (mg)	12hr SR dose (mg)	24hr total dose (mg)	4 hr dose (mg)	24 hr total dose (mg)	Please see additional chart below for dose conversion ranges	4 hr dose (mg)	24hr total dose (mg)	4 hr dose (mcg)	24hr total dose (mcg)
5	15	30	2.5	15	2.5	7.5	15	1	7.5	12mcg	0.1	1	25	200-250
10	30	60	5	30	5	15	30	2.5	15	25mcg	0.2	2	50	400-500
15	45	90	7.5	45	7.5	25	50	4	25	25-37mcg	0.5	3	100	600-750
20	60	120	10	60	10	30	60	5	30	37-50mcg	0.7	4	Syringe pump volume issues likely above 500mcg/24hours because fentanyl injection available as 50micrograms/ml	
30	90	180	15	90	15	45	90	7.5	45	50-75mcg	1	6		
40	120	240	20	120	20	60	120	10	60	75-100mcg	1	8		

- **PO codeine: PO morphine is 10:1, PO tramadol: PO morphine is 10:1 e.g. tramadol 400mg/24hr PO = morphine 40mg/24hr PO**
- **PO morphine: PO oxycodone 1.5-2:1 and PO oxycodone: SC oxycodone 1.5-2:1**
  e.g. morphine 30mg/24hr PO = oxycodone 15-20mg/24hr PO, e.g. oxycodone 30mg/24hr PO = oxycodone 15-20mg/24hr SC

This chart uses a 2:1 dose conversion for both oral morphine to oral oxycodone and oral oxycodone to SC oxycodone. Some centres prefer to use a 1.5-2:1 dose conversion ratio, providing a dose range for each opioid. The BNF and Palliative Care Formulary version 9 (PCF9) use the 1.5:1 dose conversion ratio.

- **The dose conversion ratio of PO morphine: SC morphine is approximately 2:1 e.g. morphine 60mg/24hr PO = morphine 30mg/24hr SC**
- **The dose conversion ratio of PO morphine: SC alfentanil is approximately 30:1 e.g. morphine 60mg/24hr PO = alfentanil 2mg/24hr SC**
- **The dose conversion ratio of SC alfentanil: SC fentanyl is approximately 4-5:1 e.g. alfentanil 1mg/24hr SC = fentanyl 200-250mcg/24hr SC**
-

Caution in prescribing: patients with escalating opioid doses; opioid switching, especially at high doses; patients who are frail, elderly and renally impaired (CKD stages 4 & 5, consult local renal prescribing guidelines).
Consider a dose 25-50% lower than predicted by the ratios and ensure PRNs are available.
Please seek specialist advice if you are uncertain about what to prescribe.

TRANSDERMAL (TD) OPIOID PATCHES

Fentanyl TD patch micrograms/hr	Approximate oral Morphine mg/24hours
12	30-45
25	60-90
37	90-135
50	120-180
62	150-225
75	180-270
100	240-360

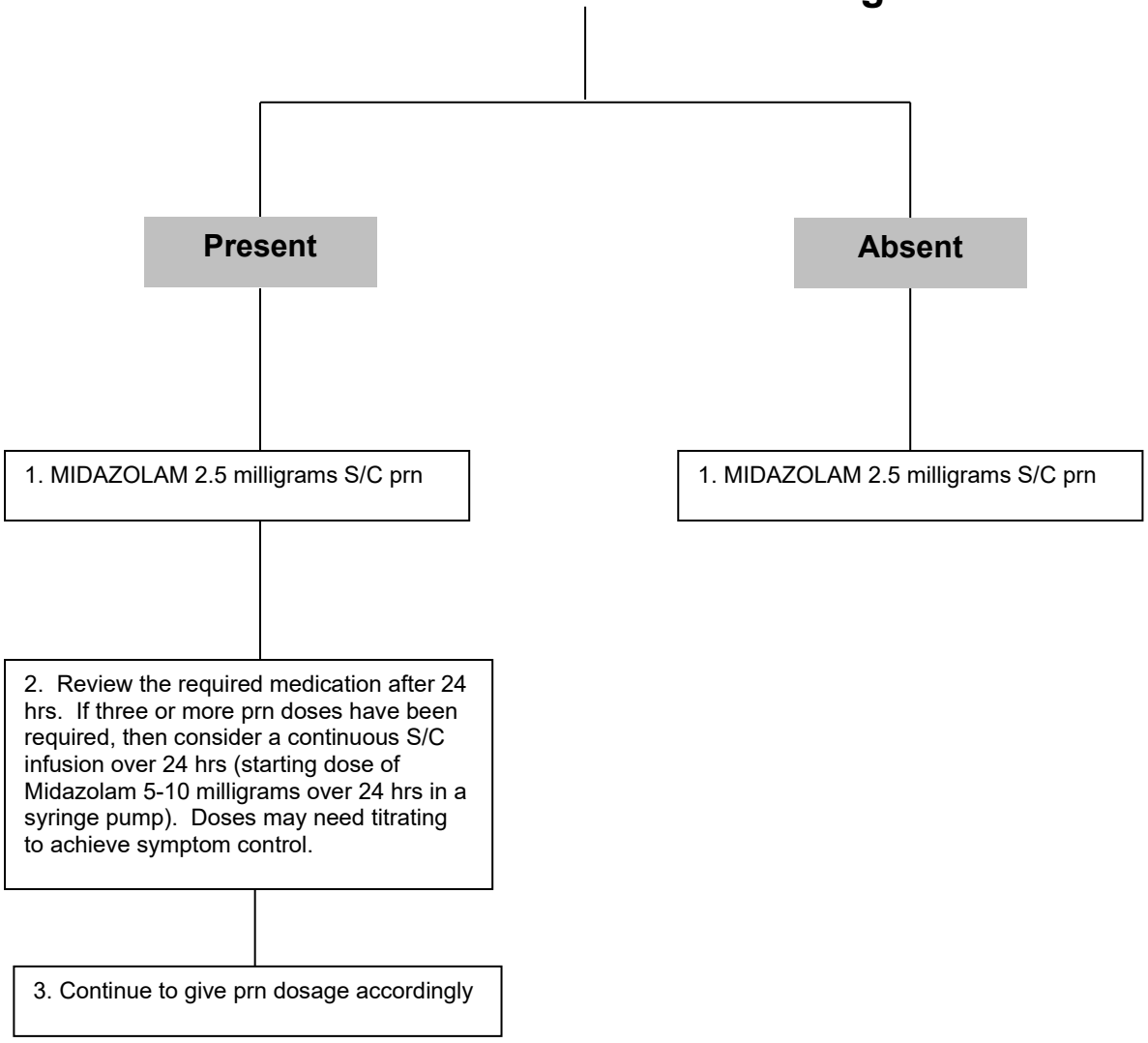
Buprenorphine TD micrograms/hr	Approximate oral Morphine mg/24hrs
5	10-20
10	20-30
15	30-40
20	40-50
35	80-90
52.5	120-130
70	160-180

- A PO morphine: transdermal fentanyl dose conversion ratio of 100-150:1 is used (PCF9 & BNF 100:1, Public Health Education Opioids Aware Resource 150:1) resulting in a dose range of oral morphine per patch strength e.g. **Fentanyl TD 25mcg/hr patch approximately= 60-90mg oral morphine/24hrs**
- It is suggested that for conversions from oral morphine to fentanyl patches, the lower doses of fentanyl should be used for patients who have been on oral opioids for just weeks and the higher doses for people who have been on a stable and well tolerated oral opioid regimen for a longer period.
- Transdermal fentanyl patches are changed every 3 days (72 hours)
- A PO morphine: transdermal buprenorphine dose conversion of 100:1 is used (PCF9)
- A variety of transdermal buprenorphine patches are available, changed either every 3, 4 days or 7 days. Check carefully before prescribing & instructing the patient

Dr Sarah Human, Consultant in Palliative Medicine, Rowcroft Hospice, South Devon in collaboration with Hospiscare, Exeter, St Luke's Hospice, Plymouth and North Devon Hospice, Barnstaple.

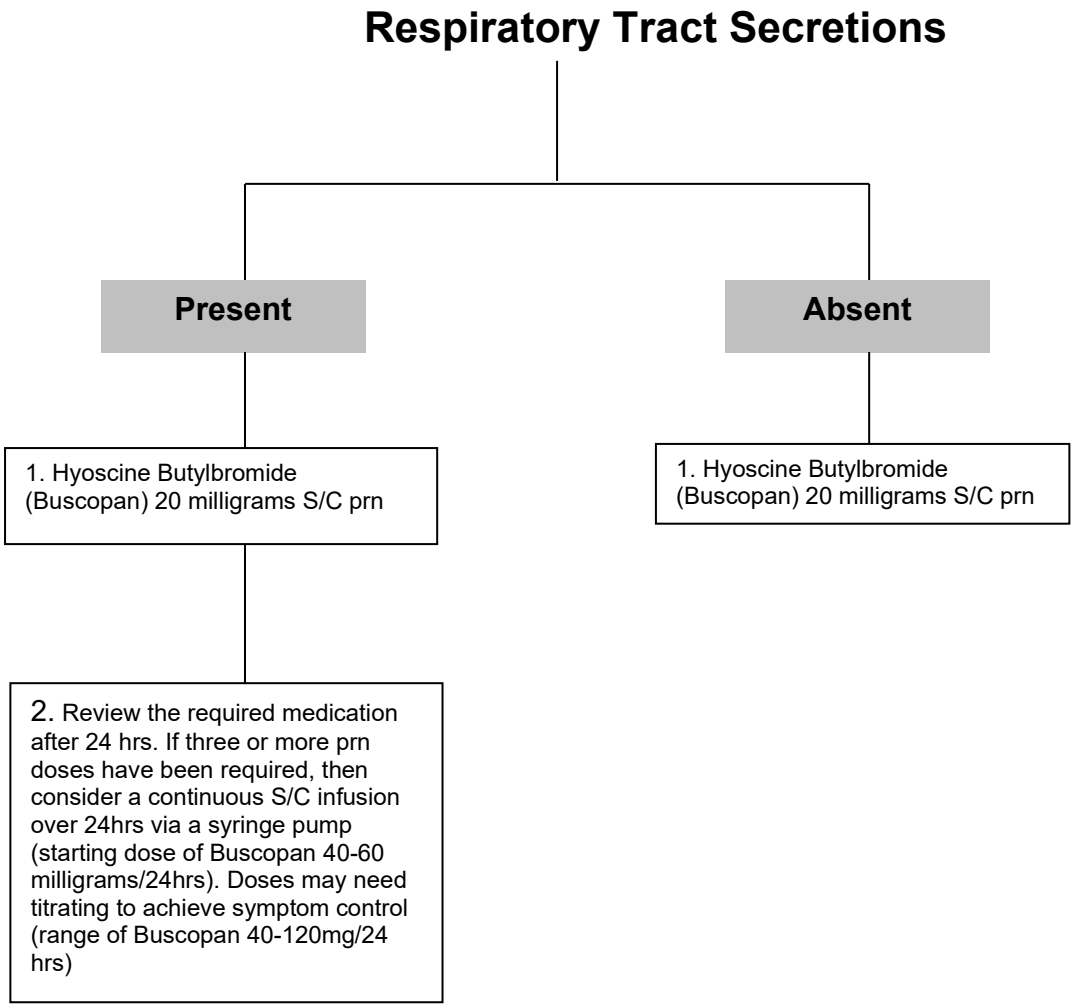
Updated November 2025
Due review November 2028

Terminal Restlessness and Agitation



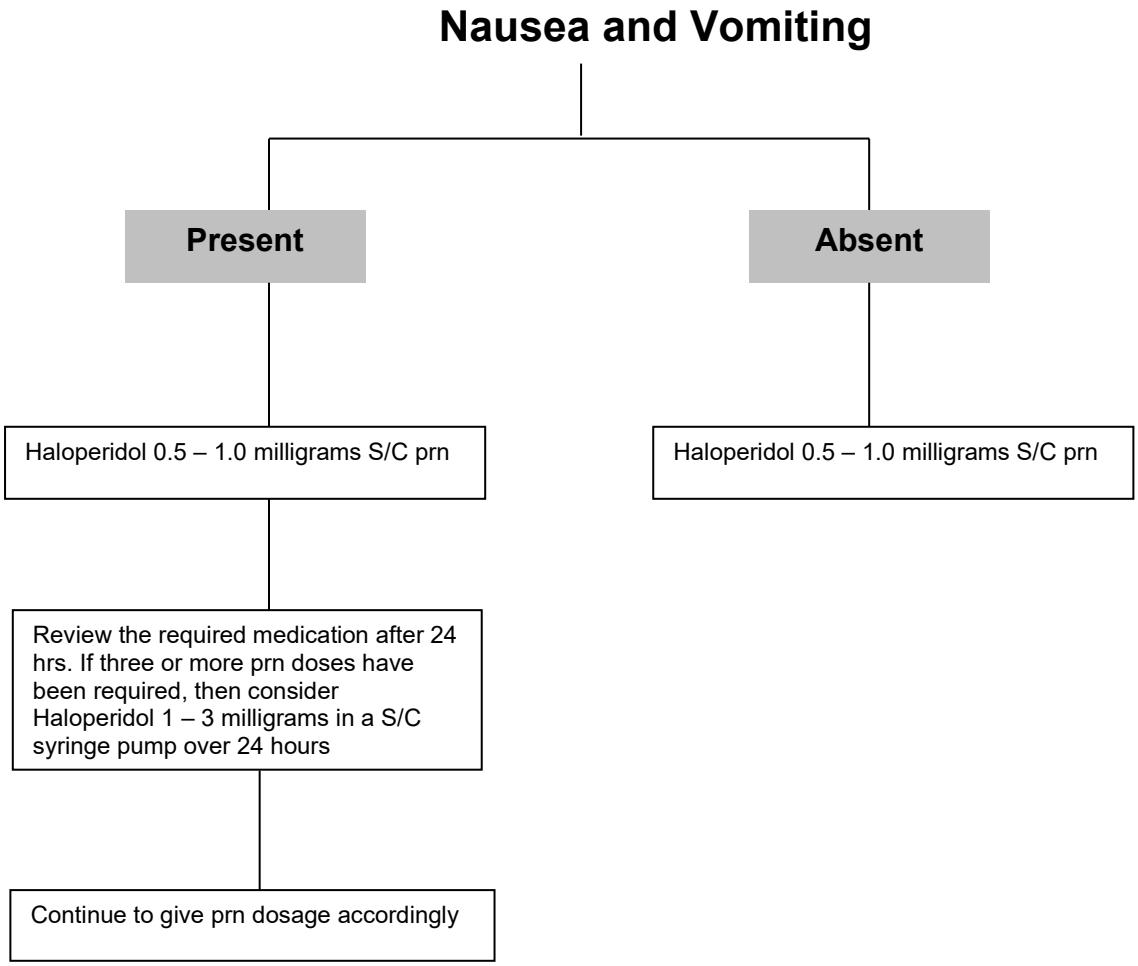
SUPPORTIVE INFORMATION:

- **If symptoms persist contact the Specialist Palliative Care Team.**
- Anticipatory prescribing in this manner will ensure that in the last hours / days of life there is no delay responding to a symptom if it occurs.



SUPPORTIVE INFORMATION:

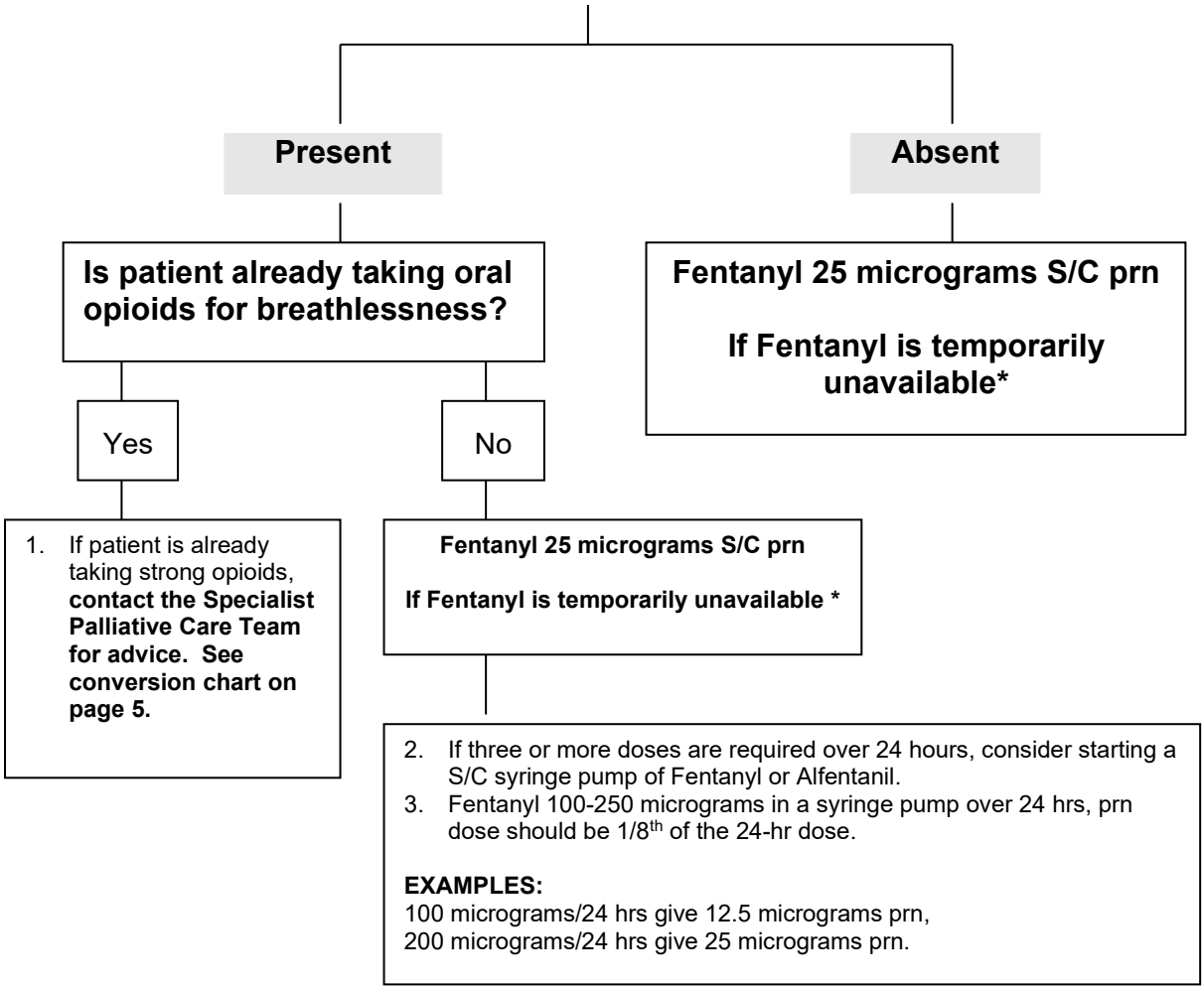
- **If symptoms persist contact the Specialist Palliative Care Team.**
- Glycopyrronium 200 micrograms S/C prn may be used as an alternative. If a S/C syringe pump is required, then consider glycopyrronium S/C 600 – 1200 micrograms over 24 hours.
- Hyoscine Hydrobromide is not usually recommended because of increased risk of central side effects such as paradoxical agitation.
- Anticipatory prescribing in this manner will ensure that in the last hours / days of life there is no delay responding to a symptom if it occurs.



SUPPORTIVE INFORMATION:

- **If symptoms persist contact the Specialist Palliative Care Team.**
- **Levomepromazine 2.5 - 5 milligrams S/C prn – *suitable alternative second line, at lower doses than usual***. If a continuous S/C infusion is required, then consider 5 milligrams S/C in a syringe pump over 24 hours.
- Metoclopramide accumulates in renal impairment leading to an increased risk of extrapyramidal side effects; if used, limit to a maximum dose of 30mg/24hours via syringe pump.
- Cyclizine may induce hypotension and tachyarrhythmias in patients with cardiac disease (often a co-morbidity in patients with advanced CKD).
- Anticipatory prescribing in this manner will ensure that in the last hours / days of life there is no delay responding to a symptom if it occurs.

Dyspnoea



SUPPORTIVE INFORMATION

- **If symptoms persist contact the Specialist Palliative Care Team.**
- * If Fentanyl is temporarily unavailable give:

  Oxycodone 1-2 milligrams S/C prn
  or
  Morphine 1-2 milligrams S/C prn

- If the patient is breathless and anxious, consider Midazolam 2.5 milligrams S/C prn.
- Review the required Midazolam medication after 24 hours. If three or more prn doses have been required, then consider adding Midazolam to continuous S/C infusion over 24 hours (starting dose of Midazolam 5-10mg over 24 hours in a syringe pump). Doses may need titrating to achieve symptom control.
- Anticipatory prescribing in this manner will ensure that in the last hours/days of life there is no delay responding to a symptom if it occurs.

Document Control Information

This is a controlled document and should not be altered in any way without the express permission of the author or their representative.

Please note this document is only valid from the date approved below, and checks should be made that it is the most up to date version available.

If printed, this document is only valid for the day of printing.

This guidance has been registered with the Trust. The interpretation and application of guidance will remain the responsibility of the individual clinician. If in doubt contact a senior colleague or expert. Caution is advised when using clinical guidance after the review date, or outside of the Trust.

Ref No:	1612		
Document title:	Prescribing at the End of Life for Patients with Renal Impairment		
Purpose of document:			
Date of issue:	4 September 2020	**Next review date:**	22 April 2029
Version:	1	**Last review date:**	
Author:	Consultant in Palliative Care		
Directorate:	Palliative Care		
Equality Impact:	The guidance contained in this document is intended to be inclusive for all patients within the clinical group specified, regardless of age, disability, gender, gender identity, sexual orientation, race and ethnicity & religion or belief		
Committee(s) approving the document:	Clinical Director of Rowcroft Hospice Clinical Director of Pharmacy		
Date approved:	4 September 2020		
Links or overlaps with other policies:			

Have you identified any issues on the Rapid (E)quality Impact Assessment. If so please detail on Rapid (E)QIA form.	Yes ☐	
	Please select *Yes*	*No*
Does this document have implications regarding the Care Act? *If yes please state:*	☐	☐
Does this document have training implications? *If yes please state:*	☐	☐
Does this document have financial implications? *If yes please state:*	☐	☐
Is this document a direct replacement for another? *If yes please state which documents are being replaced:*	☐	☐

Document Amendment History

Date	Version no.	Amendment summary	Ratified by:
16 January 2014	1	New	Consultant in Palliative Care Consultant in Palliative Care Consultant in Palliative Care Clinical Director of Pharmacy
8 January 2016	2	Revised	Consultant in Palliative Medicine Consultant in Palliative Medicine Clinical Director in Palliative Care Clinical Director of Pharmacy
21 September 2017	2	Date change	Consultant in Palliative Care Clinical Director of Pharmacy
4 September 2020	3	Revised	Clinical Director of Rowcroft Hospice Clinical Director of Pharmacy
22 April 2026	4	Reviewed	Clinical Director of Rowcroft Hospice Clinical Director of Pharmacy

The Mental Capacity Act 2005

The Mental Capacity Act provides a statutory framework for people who lack capacity to make decisions for themselves, or who have capacity and want to make preparations for a time when they lack capacity in the future. It sets out who can take decisions, in which situations, and how they should go about this. It covers a wide range of decision making from health and welfare decisions to finance and property decisions

Enshrined in the Mental Capacity Act is the principle that people must be assumed to have capacity unless it is established that they do not. This is an important aspect of law that all health and social care practitioners must implement when proposing to undertake any act in connection with care and treatment that requires consent. In circumstances where there is an element of doubt about a person's ability to make a decision due to 'an impairment of or disturbance in the functioning of the mind or brain' the practitioner must implement the Mental Capacity Act.

The legal framework provided by the Mental Capacity Act 2005 is supported by a Code of Practice, which provides guidance and information about how the Act works in practice. The Code of Practice has statutory force which means that health and social care practitioners have a legal duty to have regard to it when working with or caring for adults who may lack capacity to make decisions for themselves.

"The Act is intended to assist and support people who may lack capacity and to discourage anyone who is involved in caring for someone who lacks capacity from being overly restrictive or controlling. It aims to balance an individual's right to make decisions for themselves with their right to be protected from harm if they lack the capacity to make decisions to protect themselves". (3)

All Trust workers can access the Code of Practice, Mental Capacity Act 2005 Policy, Mental Capacity Act 2005 Practice Guidance, information booklets and all assessment, checklists and Independent Mental Capacity Advocate referral forms on ICON.

https://icon.torbayandsouthdevon.nhs.uk/areas/mental-capacity-act/Pages/default.aspx

Infection Control

All staff will have access to Infection Control Policies and comply with the standards within them in the work place. All staff will attend Infection Control Training annually as part of their mandatory training programme.

NHS
Torbay and South Devon
NHS Foundation Trust

Rapid (E)quality Impact Assessment (EqIA) *(for use when writing policies)*

Policy Title (and number)		**Version and Date**	
Policy Author			
An (e)quality impact assessment is a process designed to ensure that policies do not discriminate or disadvantage people whilst advancing equality. Consider the nature and extent of the impact, not the number of people affected.			
Who may be affected by this document?			
Patients/ Service Users ☐	Staff ☐	Other, please state…	☐

Could the policy treat people from protected groups less favorably than the general population? ***PLEASE NOTE: Any 'Yes' answers may trigger a full EIA and must be referred to the equality leads below***					
Age	Yes ☐ No☐	Gender Reassignment	Yes ☐ No☐	Sexual Orientation	Yes ☐ No☐
Race	Yes ☐ No☐	Disability	Yes ☐ No☐	Religion/Belief (non)	Yes ☐ No☐
Gender	Yes ☐ No☐	Pregnancy/Maternity	Yes ☐ No☐	Marriage/ Civil Partnership	Yes ☐ No☐
Is it likely that the policy could affect particular 'Inclusion Health' groups less favorably than the general population? (substance misuse; teenage mums; carers[1]; travellers[2]; homeless[3]; convictions; social isolation[4]; refugees)					Yes ☐ No☐
Please provide details for each protected group where you have indicated 'Yes'.					

VISION AND VALUES: Policies must aim to remove unintentional barriers and promote inclusion	
Is inclusive language[5] used throughout?	Yes ☐ No☐ NA ☐
Are the services outlined in the policy fully accessible[6]?	Yes ☐ No☐ NA ☐
Does the policy encourage individualised and person-centred care?	Yes ☐ No☐ NA ☐
Could there be an adverse impact on an individual's independence or autonomy[7]?	Yes ☐ No☐ NA ☐
EXTERNAL FACTORS	
Is the policy a result of national legislation which cannot be modified in any way?	Yes ☐ No☐
What is the reason for writing this policy? (Is it a result in a change of legislation/ national research?)	
Who was consulted when drafting this policy?	

Patients/ Service Users ☐	Trade Unions ☐	Protected Groups (including Trust Equality Groups) ☐
Staff ☐	General Public ☐	Other, please state… ☐

What were the recommendations/suggestions?	
Does this document require a service redesign or substantial amendments to an existing process? ***PLEASE NOTE: 'Yes' may trigger a full EIA, please refer to the equality leads below***	Yes ☐ No☐

ACTION PLAN: Please list all actions identified to address any impacts

Action	Person responsible	Completion date

AUTHORISATION:
By signing below, I confirm that the named person responsible above is aware of the actions assigned to them

Name of person completing the form		**Signature**	
Validated by (line manager)		**Signature**	

Please contact the Equalities team for guidance:
For South Devon & Torbay CCG, please call 01803 652476 or email marisa.cockfield@nhs.net
For Torbay and South Devon NHS Trusts, please call 01803 656676 or email pfd.sdhct@nhs.net
This form should be published with the policy and a signed copy sent to your relevant organisation.

Clinical and Non-Clinical Policies – Data Protection

Torbay and South Devon NHS Foundation Trust (TSDFT) has a commitment to ensure that all policies and procedures developed act in accordance with all relevant data protection regulations and guidance. This policy has been designed with the EU General Data Protection Regulation (GDPR) and Data Protection Act 2018 (DPA 18) in mind, and therefore provides the reader with assurance of effective information governance practice.

The UK data protection regime intends to strengthen and unify data protection for all persons; consequently, the rights of individuals have changed. It is assured that these rights have been considered throughout the development of this policy. Furthermore, data protection legislation requires that the Trust is open and transparent with its personal identifiable processing activities and this has a considerable effect on the way TSDFT holds, uses, and shares personal identifiable data.

Does this policy impact on how personal data is used, stored, shared or processed in your department? Yes ☐ No ☐

If yes has been ticked above it is assured that you must complete a data mapping exercise and possibly a Data Protection Impact Assessment (DPIA). You can find more information on our GDPR page on ICON (intranet)

For more information:

- Contact the Data Access and Disclosure Office on dataprotection.tsdft@nhs.net,
- See TSDFT's Data Protection & Access Policy,
- Visit our Data Protection site on the public internet