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| --- | --- | --- |
| Title: | **PRESCRIBING AT THE END OF LIFE FOR****PATIENTS WITH RENAL IMPAIRMENT****(estimated glomerular filtration rate<30)** | Ref No:1612 Version 2 |
| Directorate: | Palliative Care | Due for Review: 21/09/19 |
|  |  |  |
| Responsible for review: | Consultant in Palliative Medicine | [Document Control](#Protocolsandguidelines) |
| Ratified by: | Consultant in Palliative MedicineClinical Director of Palliative MedicineConsultant in Palliative CareClinical Director of Pharmacy |  |
|  |  |  |
| Applicability | All patients as indicated |  |

**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.
* 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 and Diamorphine, is impaired, which can lead to signs of 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).
* Ideally, a renal friendly opioid should be commenced in an opioid naive patient with a low eGFR.
* Extra care should be taken in prescribing for patients with an eGFR <30, but it is **not** a rigid cut off.
* In patients with a low eGFR 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 renal friendly opioid if opioid toxicity is suspected.
* Symptoms as a result of uraemia may be difficult to distinguish from symptoms of opioid toxicity.
* Concern about 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:

# 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*

1. 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*
2. Chambers EJ, Brown E, Germain M. *Supportive Care for the Renal Patient*, 2nd edition. Oxford: Oxford University Press, 2010.
3. Ashley C, Currie A; *The Renal Drug Handbook.* Radcliffe Publishing Ltd; 3rd revised edition 2008

**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 will be able to ask the doctor to call you back)**

**Pain**

**Is patient already taking**

**oral opioids?**

**No**

**Yes**

1. If patient is already taking

 strong opioids,

 **contact the Specialist**

 **Palliative Care Team for**

 **advice. See conversion**

 **chart on page 6.**

**1. Fentanyl 25**

 **micrograms S/C prn**

***If Fentanyl is temporarily***

***unavailable \****

2. If three or more doses are required over 24

 hours consider starting a S/C syringe pump

 of Fentanyl.

3. Fentanyl 100-250 micrograms in a syringe

 pump over 24hrs, prn dose should be 1/8th of

 the 24 hr dose.

**EXAMPLES:**

100 micrograms/24hrs give 12.5 micrograms prn,

200 micrograms/24hrs give 25 micrograms prn.

**SUPPORTIVE INFORMATION:**

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

2. 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 Diamorphine and their 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, Diamorphine and Oxycodone may last longer than in a patient with normal renal function.

3. \*If Fentanyl is temporarily unavailable give:

 a. Oxycodone 1-2 milligrams S/C prn

 **or**

 b. Diamorphine 1-2 milligrams S/C prn

4. 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 Diamorphine and is longer acting than Fentanyl and Alfentanil. 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.

5. If 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 to use. See conversion table on page 6.

6. For patients already on Fentanyl or Buprenorphine 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).

7. 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.

**A GUIDE TO EQUIVALENT DOSES FOR OPIOID DRUGS**

This is to be used as **a guide** rather than a set of definitive equivalences. Most data on doses is based on single dose studies so is not necessarily applicable in chronic use. Individual patients may metabolise different drugs at varying rates. The advice is always to calculate doses using morphine as standard and to adjust them to suit the patient and the situation. Some of these doses have by necessity been rounded up or down to fit in with the preparations available.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Oral Morphine** | **Subcutaneous Morphine** | **Subcutaneous Diamorphine** | **Oral Oxycodone** | **Subcutaneous Oxycodone** | **Fentanyl Transdermal** | **Subcutaneous Alfentanil** | **Subcutaneous Fentanyl** |
| 4 hrdose(mg) | 12hrSRdose(mg) | 24hrTotaldose(mg) | 4 hrdose(mg) | 24 hrtotaldose(mg) | 4 hrdose(mg) | 24 hrtotaldose(mg) | 4hrdose(mg) | 12hrSRdose(mg) | 24hrtotaldose(mg) | 4 hrdose(mg) | 24 hrtotaldose(mg) | Patchstrength(mcg) | 4 hrdose(mg) | 24hrtotaldose(mg) | 4 hrdose(mcg) | 24hrtotaldose(mcg) |
| 5 | 15 | 30 | 2.5 | 15 | 1.25 | 10 | 2.5 | 7.5 | 15 | 1.25 | 7.5 | 12mcg | 0.125 | 1 | 25 | 200 |
| 10 | 30 | 60 | 5 | 30 | 2.5-5 | 20 | 5 | 15 | 30 | 2.5 | 15 | 25mcg | 0.25 | 1.5 | 50 | 300 |
| 15 | 45 | 90 | 7.5 | 45 | 5 | 30 | 7.5 | 25 | 50 | 3.75 | 25 | 25mcg | 0.5 | 3 | 100 | 600 |
| 20 | 60 | 120 | 10 | 60 | 7.5 | 40 | 10 | 30 | 60 | 5 | 30 | 37mcg | 0.75 | 4 | Syringe pump volume issues likely above 500mcg/24hours |
| 30 | 90 | 180 | 15 | 90 | 10 | 60 | 15 | 45 | 90 | 7.5 | 45 | 50mcg | 1 | 6 |
| 40 | 120 | 240 | 20 | 120 | 12.5 | 80 | 20 | 60 | 120 | 10 | 60 | 75mcg | 1.25 | 8 |
| 50 | 150 | 300 | 25 | 150 | 15 | 100 | 25 | 75 | 150 | 12.5 | 75 | 75mcg | 1.5 | 10 |
| 60 | 180 | 360 | 30 | 180 | 20 | 120 | 30 | 90 | 180 | 15 | 90 | 100mcg | 2 | 12 |
| 70 | 210 | 420 | 35 | 210 | 25 | 140 | 35 | 105 | 210 | 17.5 | 100 | 125mcg | 2.5 | 14 |
| 80 | 240 | 480 | 40 | 240 | 27.5 | 160 | 40 | 120 | 240 | 20 | 120 | 125mcg | 2.5 | 16 |
| 90 | 270 | 540 | 45 | 270 | 30 | 180 | 45 | 135 | 270 | 22.5\* | 135 | 150mcg | 3 | 18 |
| 100 | 300 | 600 | 50 | 300 | 35 | 200 | 50 | 150 | 300 | 25\* | 150 | 150mcg | 3.5 | 20 |
| 110 | 330 | 660 | 55 | 330 | 37.5 | 220 | 55 | 165 | 330 | 27.5\* | 165 | 175mcg | 3.75 | 22 |
| 120 | 360 | 720 | 60 | 360 | 40 | 240 | 60 | 180 | 360 | 30\* | 180 | 200mcg | 4 | 24 |

Reproduced with kind permission of Margaret Gibbs, St Christopher’s Hospice (original chart 2010).

\* this dose requires using 50mg in 1ml injection as it would otherwise be too large a volume for a sc injection. **Caution with this strength.**

* A PO morphine;transdermal fentanyl dose conversion ratio of 150:1 is used
* This chart has been amended to incorporate the availability of Fentanyl Transdermal 12 mcg patches and to include approximate equivalent doses of subcutaneous Fentanyl.
* The dose conversion ratio of SC diamorphine: SC alfentanil varies from 10-6:1. It is prudent to use the more conservative ratio when switching from one to the other e.g. if switching from diamorphine to alfentanil, use dose conversion ratio 10:1 so that 10mg diamorphine = 1mg alfentanil. If switching from alfentanil to diamorphine use dose conversion ratio 6:1 so that 1mg alfentanil = 6mg diamorphine.

**24 hour advice line (Rowcroft Hospice) 01803 210800. Calls go through to the hospice. The senior nurse will be able to answer queries or ask the doctor on call to ring you back.**

**Terminal Restlessness and Agitation**

**Present**

**Absent**

1. MIDAZOLAM 2.5 milligrams S/C prn

1. MIDAZOLAM 2.5 milligrams S/C prn

2. Review the required medication after 24 hrs. If three or more prn doses have been required, then consider a continuous S/C infusion over 24 hrs (starting dose of Midazolam 5-10 milligrams over 24 hrs in a syringe pump). Doses may need titrating to achieve symptom control.

3. Continue to give prn dosage accordingly

**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.

**Respiratory Tract Secretions**

**Absent**

**Present**

1. Hyoscine Butylbromide (Buscopan) 20 milligrams S/C prn

1. Hyoscine Butylbromide (Buscopan) 20 milligrams S/C prn

2. Review the required medication after 24 hrs. If three or more prn doses have been required then consider a continuous S/C infusion over 24hrs via a syringe pump (starting dose of Buscopan 40-60 milligrams/24hrs). Doses may need titrating to achieve symptom control (range of Buscopan 40-120mg/24 hrs)

**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.

**Nausea and Vomiting**

**Absent**

**Present**

Haloperidol 0.5 – 1.5 milligrams S/C prn

Haloperidol 0.5 – 1.5 milligrams S/C prn

Review the required medication after 24 hrs. If three or more prn doses have been required then consider Haloperidol 1.5 – 3 milligrams in a S/C syringe pump over 24 hours

Continue to give prn dosage accordingly

**SUPPORTIVE INFORMATION:**

* **If symptoms persist contact the Specialist Palliative Care Team.**
* **Levomepromazine 6.25 milligrams S/C prn – *suitable alternative second line*** (if a continuous S/C infusion is required then consider 6.25 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**

**Absent**

**Present**

**Is patient already taking oral opioids for breathlessness?**

Yes

No

1. If patient is already taking strong opioids, **contact the Specialist Palliative Care Team for advice. See conversion chart on page 6.**

**Fentanyl 25 micrograms S/C prn**

**If Fentanyl is temporarily**

**unavailable\***

**Fentanyl 25 micrograms S/C prn**

**If Fentanyl is temporarily unavailable \***

2. If three or more doses are required over 24 hours, consider starting a S/C syringe pump of Fentanyl or Alfentanil.

3. Fentanyl 100-250 micrograms in a syringe pump over 24 hrs, prn dose should be 1/8th of the 24 hr dose.

**EXAMPLES:**

100 micrograms/24 hrs give 12.5 micrograms prn,

200 micrograms/24 hrs give 25 micrograms prn.

**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**

 Diamorphine 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.

**Protocols & Guidelines – Document Control**

This is a controlled document. It should not be altered in any way without the express permission of the author or their representative. On receipt of a new version, please destroy all previous versions.

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| --- | --- |
| Ref: 1612  | Title: Prescribing at the end of life for patients with renal impairment (estimated glomerular filtration rate <30) |
| Date of Issue: | 21 September 2017 | Next Review Date: | 21 September 2017 |
| Version: | 2 |
| Author: |

|  |
| --- |
| Dr S Human, Consultant in Palliative Care |
|  (These guidelines have been produced in collaboration with Dr Lucy Smyth, Consultant in Renal Medicine, Royal Devon and Exeter NHS Foundation Trust and the Specialist Palliative Care team at Hospiscare, Exeter) |

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| Index: | Palliative Care |
| Classification: | Guideline |
| Applicability: | All patients as indicated in guideline |
| 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. |
| Evidence based: | Yes |
| References: | 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*1. 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*
2. Chambers EJ, Brown E, Germain M. *Supportive Care for the Renal Patient*, 2nd edition. Oxford: Oxford University Press, 2010.
3. Ashley C, Currie A; *The Renal Drug Handbook.* Radcliffe Publishing Ltd; 3rd revised edition 2008
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| Produced following audit: | No |
| Audited: | No |
| Approval Route: | See ratification | Date Approved: | 31 December 2015 |
| Approved By: | Consultant in Palliative Medicine |
|  | Consultant in Palliative Medicine |
|  | Clinical Director of Palliative Care |
|   | Clinical Director of Pharmacy |
| Links or overlaps with other policies: |
| All TSDFT Trust strategies, policies and procedure documents. |

**PUBLICATION HISTORY:**

|  |  |  |  |
| --- | --- | --- | --- |
| Issue | Date | Status | Authorised |
| 1 | 16 January 2014 | New | Consultant in Palliative CareConsultant in Palliative CareConsultant in Palliative Care Clinical Director of Pharmacy |
| 2 | 8 January 2016 | Revised | Consultant in Palliative MedicineConsultant in Palliative MedicineClinical Director in Palliative CareClinical Director of Pharmacy |
| 2 | 21 September 2017 | Date change | Consultant in Palliative Care |

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 iCare

<http://icare/Operations/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.



|  |  |  |  |
| --- | --- | --- | --- |
| 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; carers1; travellers2; homeless3; convictions; social isolation4; 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 language5 used throughout?  | Yes ☐ No☐ NA ☐ |
| Are the services outlined in the policy fully accessible6?  | 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 autonomy7? | 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** |  |

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

**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.**

1 Consider any additional needs of carers/ parents/ advocates etc, in addition to the service user

2 Travelers may not be registered with a GP - consider how they may access/ be aware of services available to them

3 Consider any provisions for those with no fixed abode, particularly relating to impact on discharge

4 Consider how someone will be aware of (or access) a service if socially or geographically isolated

5 Language must be relevant and appropriate, for example referring to partners, not husbands or wives

6 Consider both physical access to services and how information/ communication in available in an accessible format

7 Example: a telephone-based service may discriminate against people who are d/Deaf. Whilst someone may be able to act on their behalf, this does not promote independence or autonomy