

## Use of ALFENTANIL via the subcutaneous route for symptom management in palliative and end of life care patients in the community (Adults).

**CAUTION – please read full information leaflet before prescribing.**

*This Medicines Information Leaflet is produced locally to optimise the use of medicines by encouraging prescribing that is safe, clinically appropriate and cost-effective to the NHS. It is not a clinical guideline.*

### Background

Alfentanil is a strong opioid which can be given by subcutaneous administration. It should be considered for patients requiring a strong opioid for pain relief who have CKD4 (severe renal impairment) or CKD5 end stage kidney disease (ESKD) i.e. eGFR <30 ml/min where oxycodone would be less safe.

Alfentanil is a synthetic, lipophilic opioid with a rapid onset of action and a short duration of action. It is metabolised in the liver by CYP3A4 to inactive metabolites which are excreted renally. If metabolism is affected by hepatic impairment (including the effects of ageing) or obesity, alfentanil may accumulate. Oxycodone may be used in mild to moderate renal impairment. Caution is needed in renal impairment as 20% of Oxycodone is excreted unchanged in the urine. Significant renal impairment means that plasma concentrations can increase by 50%.

### Prescribing Alfentanil

Alfentanil is classified as Amber Continuation on the [Oxfordshire Formulary](#). Therefore Alfentanil can be prescribed by GP's following specialist initiation.

The Palliative Care team will ensure that the GP and community nursing team receive the support or training they might need to ensure the safe administration of alfentanil in a syringe driver and monitoring of the patient. A copy of this information leaflet can be found on the OCCG formulary.

The discharge prescription will have the full details of the dose of alfentanil. Any changes in dose following discharge should only be made on the advice of the Palliative Care Team.

## Prescribing Safely<sup>1</sup>

Alfentanil is approximately 30 times stronger than oral morphine.

- The wide dose range of Alfentanil means that doses can be written in MICROgrams or MILLIgrams (mg).
- If the difference between micrograms and milligrams is not understood it can lead to the wrong calculation results e.g. the volume of the injection to be administered.
- Micrograms are 1000 times smaller than milligrams i.e. 1000 micrograms equals 1 milligram. **Do not abbreviate micrograms due to the risk of misreading.**

When titrating doses be aware smaller incremental increases may be appropriate due to strength of alfentanil. If unfamiliar with alfentanil convert your calculation back to oral morphine (multiply by 30) to give a better idea of the dose of alfentanil you are prescribing.

## Supply

Alfentanil is a Schedule 2 controlled drug and is available in two strengths:

- Alfentanil 1mg/2ml (500micrograms/ml)
- Alfentanil 5mg/ml. Note the high strength is TEN times stronger.
- Different strengths can be packaged in similar looking boxes. If the wrong box is chosen it can lead to the wrong dose being given.
- When medicines boxes look similar, stop and check the box you pick up is: the right medicine, and the right strength where more than one strength exists.

## Continuous Subcutaneous Infusion via T34 syringe driver

Alfentanil is not licensed for use as an analgesic nor for administration via the subcutaneous route or when mixed with other medicines in a syringe driver. However, it is well documented clinical practice in palliative medicine.<sup>1</sup>

OH Syringe driver policy states a total volume of 21ml over 24 hours in a syringe driver using water for injections as a diluent.

Alfentanil is known to be compatible in a syringe driver with haloperidol, hyoscine butyl bromide, levomepromazine, metoclopramide and midazolam. Alfentanil is not compatible with cyclizine but advice should be sought from the palliative care team for specific combinations.

As the duration of action is short, alfentanil is rarely used for breakthrough pain. Oxycodone should be prescribed at 1/6th equivalent opioid 24 hour dose. Be aware of possible increased sedation, even with oxycodone, due to some accumulation of metabolites.

### Examples for information

#### The starting dose for an opioid naive patient would be:

- alfentanil 500micrograms subcutaneously over 24 hours
- with PRN oxycodone 1mg subcutaneously 4 – 6 hourly

Review the syringe driver at least every 24 hours taking into account the prns used and titrate the 24 hour dose if needed by no more than 50% each time. Remember to adjust the prn opioid each time as well. *This should only be done under the advice from the Palliative Care Team.*

#### Converting from Morphine

PO morphine: SC alfentanil is 30 : 1

SC morphine : SC alfentanil is 15 : 1

Example calculation

Patient taking 60mg of oral morphine sulfate modified release in 24 hours (i.e. 30mg twice a day) would require a dose of 2mg of alfentanil over 24 hours via CSCI.

Patient taking 30mg of morphine sulphate via a syringe driver of 24 hours would require a dose of 2mg of alfentanil over 24 hours.

#### Converting from Oxycodone

PO oxycodone : SC alfentanil is 15 : 1 ;

SC oxycodone : SC alfentanil is 10 : 1

Example Calculation

Patient taking 30mg of oral oxycodone modified release over 24 hours (i.e. 15mg twice a day) would require a dose 2mg of alfentanil over 24 hours via syringe driver.

Patient taking 30mg of oxycodone over 24 hours via a syringe driver, would require a dose of 3mg of alfentanil over 24 hours.

#### Adverse effects

In common with other strong opioids, constipation, nausea and vomiting, drowsiness, hypotension, respiratory depression. Please consult SPC or BNF for full information

#### Contraindications and precautions

Hypersensitivity to alfentanil or other morphinomimetics. Concurrent use with MAOI, liver impairment, Cytochrome P450 CYP3A4 drug interactions.

The plasma concentration of alfentanil may be increased by inhibitors of CYP3A4 e.g. erythromycin, fluconazole and cimetidine and decreased by inducers e.g. rifampicin.

#### Toxicity

Alfentanil is a strong opioid and healthcare professionals need to be aware of the signs and symptoms of possible overdose.

## Contacts

### **Patients under care of Sobell House:**

9am to 5pm daily : 01865 857036

A senior doctor in Palliative Medicine is available via Churchill switchboard for urgent out of hours advice.

### **Patients under care of Katharine House:**

24-hour palliative care advice is available for patients from Katharine House Hospice.

Tel: 01295 811866

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<sup>i</sup> <https://www.gov.uk/drug-safety-update/medical-and-non-medical-prescribing-mixing-medicines-in-clinical-practice#background-mixing-of-medicines-in-palliative-care>