Adult 'Surgical' Based Intravenous (IV) Incremental Morphine/ Fentanyl

Contents

Purpose

To ensure safe IV bolus administration of morphine or fentanyl to adult patients within a surgical setting.

Scope

Surgical Inpatient Services

Registered Nurses/Midwives with Canterbury IV Certification (Level 1 or 2 Endorsement), Approved persons

Prescribers/Medical practitioners

Associated documents

- Adult guidelines for intermittent opioid administration lanyard ref. 210
- Drug Chart
- Notes on Injectable Drugs
- Area specific Drug chart
- Hospital Health Pathways (HHPs)
- Adult Observation Chart
- Algorithm Poster Ref. 3064 (available from Medical Illustrations) (refer to the end of this document)

Important considerations

- The prescriber and administrator should be cognisant of any pre-existing conditions the patient has which puts the patient at risk of adverse effects.

These conditions include:

  - Respiratory disease including obstructive sleep apnoea
  - Bradycardia arrhythmias
  - Liver or renal disease
  - Central nervous system depression
  - Raised intracranial pressure
  - Compromised renal function, particularly in the elderly.
  - Receiving other sedative medication(s)

- The recommended opioid of use is Morphine Sulphate, unless contraindicated e.g. known allergy or renal impairment
- If timely access to a doctor is not practicable do not administer opioids unless naloxone and oxygen are charted/or provided as a standing order, refer back to Prescriber
- The syringe must have the patients ID label attached
- The RN/RM/RMO must be familiar with where naloxone is stored on the ward

- The patient/family/whanau should be briefed on the benefits and risks of IV opioids and be given education on adverse effects

Please Note:

- Patients given intermittent IV opioids should be considered for an alternative/enhanced analgesic regime once comfortable e.g.: PCA
- Patients who are on regular opioids on admission (cancer and chronic pain) are likely to need an individualised analgesic regime. Consult with the Acute Pain Management Service (APMS) in Christchurch Campus, Anaesthetist/Anaesthetic SHO (Burwood and Ashburton).
- For Burwood patients if assistance is still required contact the Pain Management Centre

Recommended dosing according to age

These doses are a guide, use clinical judgement, some considerations:

- Initial dosing – for the opioid naïve patient begin at the lower end of the dose range
- Age is a best dose predictor. Lower doses are usually required with increasing age
- Renal impairment – morphine may be inappropriate. Consider a longer dosing interval
- Weight – dose adjustment may be required at extremes of body weight
- General physical condition – less opioid is usually required if frail or poor general condition
- Pre-existing opioid use- opioid tolerance occurs with long term opioids, larger doses are often required

Morphine Intravenous		**Fentanyl Intravenous**	
Age	Suggested Dose Q5min	Age	Suggested Dose Q5min
16 - 39	2 mg	16 - 39	40 microg
40 – 59	1.5 mg	40 – 59	30 microg
60 – 80	1 mg	60 – 80	20 microg
80 +	0.5 mg	80 +	10 microg

Preparation of syringe

Either

Prepare a 10 mL syringe for Morphine as below

Morphine 10 mg/1 mL ampoule + 9 mL 0.9% Sodium Chloride or use the 10 mL syringe of Premix solution(1 mg/1 mL)

Or

Prepare a 10mL syringe for Fentanyl as below

Fentanyl 100 micrograms/2 mL ampoule + 8 mL Sodium Chloride 0.9% (10 microgram per 1 mL)

Please Note: Fentanyl concentration is in micrograms not milligram(mg)

Observations and Monitoring

Baseline Observations

Document Baseline observations including a sedation score, pain score and respiratory rate

Observation criteria for administration

All of the following observation criteria must be achieved BEFORE the patient receives any IV opioid

- Respiratory rate above 12 respirations per minute
- A or V (APVU scale)
- Sedation score of 0 or 1
- SPO2 greater than 94%
- Systolic above 100 mmHg
- Pulse rate above 50 beats per minute

Action NZEWS scoring as per NZEWS protocol/procedure.

Monitoring

- The administrator must be physically present with the patient at the bedside for 5 minutes after each incremental dose
- Post administration assessment/observations will be performed and documented at:
  - 5 min post administration
  - 15 min post administration
  - When clinically indicated due to concerns

Repeat Doses

- Repeat doses can be given at 5 minute intervals BUT after 5 incremental doses the patient needs to be reassessed by medical staff

- The patient must meet the Observation Criteria for administration PRIOR to each incremental dose administration
- Incremental syringes must be recapped with a new blue Combi-lock between doses
- Any unused opioid must be discarded and documented in the register at the end of the nurses shift

Please Note: If in doubt about administering further increments check with medical staff/prescriber

Adverse Effects/Precautions

- Respiratory depression (Respiratory rate less than 9 respirations per minute) is a potentially life-threatening adverse effect.
- Sedation score of 2 or more
- Heart rate less than 50 beats per minute
- Hypotension – blood pressure of less than 100 mmHg systolic or drop of greater than 20 mmHg systolic BP
- Oxygen saturations below 94% with supplementary oxygen

Emergency Management

If any of the above apply:

- Stop opioid administration seek urgent medical assistance
- If patients sedation score is 2 or over, AND/OR respiratory rate is 9 or below give naloxone and oxygen as prescribed/standing order
- If patients airway is under threat and or patient is unrousable, and/or not breathing and/or pulse not palpable call a clinical emergency
- Initiate the NZEWS protocol/procedure as per zone or sedation score

Situations where increased opioid bolus doses may be required

- The approved dosing algorithm must be adhered to, but there may be a change in dose requirement.
- Areas/patients/patient groups who are identified as requiring doses above the dosing guide can do so after consultation with the services Registrar. Whereby the Registrar will review the patient in relation to the important considerations (as per above) and prescribe boluses accordingly.
- Patient groups identified e.g. renal colic/pancreatitis patients must have a specific criteria to accompany this CDHB policy for staff direction within their service manual.

Contact details

Christchurch Campus under the APMS (Acute Pain Management Service)

Normal working hours

Medical Surgical Division APMS Nurse, **page 8114**

Gynaecology APMS Nurse, **page 7015**

Duty Anaesthetist, **page 8120**

After hours

On call Anaesthetic Registrar, **page 8212**

On call Anaesthetist via telephone office

Burwood

Normal working hours – APMS nurse, page **9135**

After hours – Anaesthetic SHO,

Or

On call Anaesthetic Registrar at Christchurch Hospital via the telephone office

Ashburton

Normal working hours – Patients Anaesthetist

After hours – On Call Anaesthetist

Measurement and Evaluation

APMS review of individual patients

IV Link Clinical Practice Observations

Incident management process

References

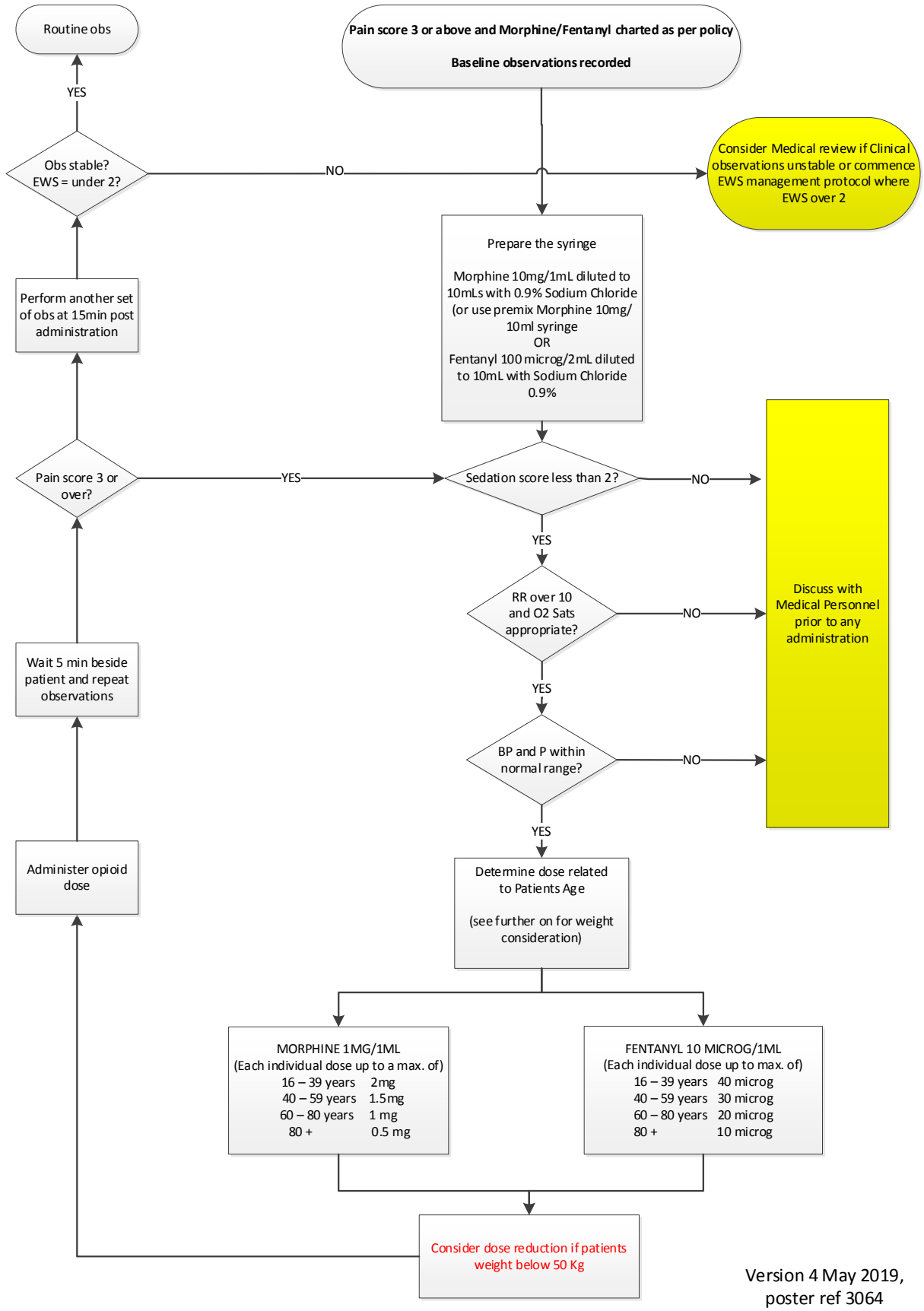
Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine (2015), Acute Pain Management Scientific Evidence, (Fourth edition.)

McIntyre, P.E., Ready, B.L. (2015), Acute Pain Management, A Practical Guide, (3rd edition), WB Saunders.

Infusion Nurses Society Manual 3rd Edition (2010) Infusion Nursing, an evidence based approach. Saunders

Algorithm

Refer to next page for algorithm



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