## PCEA CHART

### INSERTION AND PRESCRIPTION

- **Operation/Diagnosis:**
- **Anaesthesiologist:**
- **Date:**
- **Time:**
- **Needle size:** 16 G, 18 G, Other:
- **Insertion level:**
- **Length of catheter in the epidural space:** cm
- **Test dose:** Mepivacaine+epi. 20 mg/ml ml
- **Effect after** minutes: (levels)
- **Intraop. infusion:** Bupivacaine 2.4 mg/ml, Fentanyl 1.8 μg/ml, Epi. 2.4 μg/ml
- **This is a re-**
- **Bolus dose (4-10 ml):** ml
- **Time:**
- **Bolus dose** μg Fentanyl Time:
- **Infusion (4-10 ml/hr):** ml/hr
- **Time:** (recommendation 25-100 μg)
- **Postop. infusion:**
  - [ ] Standard solution: Bupivacaine 1 mg/ml, Fentanyl 2 μg/ml, Epi. 2 μg/ml (max 10 ml/hr)
  - [ ] "Double" solution: Ropivacaine 3 mg/ml, Fentanyl 5 μg/ml, Epi. 2 μg/ml (max 8 ml/hr)
- **Hypotension treated if syst. BP <:** mm Hg
- **(see reverse page)**

### PACU MONITORING

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- **Sign. doctor at prescription**
- **Sign. nurse at administration**
- **Infusion rate (ml/hr):**
- **Bolus dose (routine 2 ml):**
- **Refr.time.min (Std =10, Doub =20):**
- **Bolus doses/hr (Std =4, Doub =2):**
- **Extra bolus at PACU (ml):**

- **Resid.volume PCEA (start 500 ml):**
- **Given doses:** x 2 daily
- **Desired doses:** x 2 daily
- **Zeroing, lock level 2 (x):** x 1 daily
- **BP, systolic (mmHg):**
- **Pulse (min):**
- **Respiratory rate (min):**
- **NRS at rest (0-10):**
- **NRS at mobiliz./cough (0-10):**
- **Motor blockade, Bromage (0-3):**
- **Sedation score (0-3 or sleep):**
- **Nausea (Y/N):**
- **Pruritus (Y/N):**
- **Sensory upper level:** if VPS=4
- **Control insertion (x):** x 2 daily
- **Sign. nurse after control:**

### Comments:

#### FOLLOW UP

- **PCEA treatment stopped:**
- **Date:**
- **Time:**

- **Cause:**
  - Elective
  - Inadequate analgesia
  - Suspected infection
  - Other (state below):

- **Transition to i.v. PCA?**
  - Yes [ ]
  - No [ ]

- **Patient satisfaction (1-10):**
  - 1 = very poor analgesia
  - 10 = very good analgesia

- **Sign. ward nurse:**

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See check list for PACU discharge criteria and treatment of side effects on reverse page!
Appendix 2. Reverse page of PCEA chart with quick-guide

**Check list - actions**

**OR and PACU**
- Intraoperative epidural infusion:
  - Bupivacaine epi 5 mg/ml, 20 ml
  - Saline 20 ml
  - Fentanyl 0.05 mg/ml, 1.5 ml (75 μg)
  - Total volume 41.5 ml

- Discharge criteria PACU (anaesthetist must approve discharge):
  - Every 4-hour controls started (see PM).
  - Circulatory and respiratory stable.
  - Fully awake.
  - NRS < 4 without supplemental analgesics.
  - Sensory level documented if assessment is possible.
  - Motor function should be unaffected.

- Mobilization should be started.

**Ward**

- Motor blockade according to Bromage (every 4 hrs)
  - 0 = full movement, flexion in the hip possible.
  - 1 = can bend the knees.
  - 2 = can bend the ankle.
  - 3 = can not bend the ankle, paralysis.
  - *If increasingly impaired motor function:*
    - 1 Stop the infusion.
    - 2 Call APS nurse (97026) at day time or anaesthetist (97010) at other hours.

- Respiratory rate (every 4 hours)
  - *If < 10 / min:*
    - 1 Promote deep breaths.
    - 2 Administer oxygen on mask 10 l/min.
    - 3 Stop the epidural infusion.
    - 4 Give naloxone, 0.4 mg/ml, 0.25 ml iv. Can be repeated.
    - 5 Call anaesthetist (97010).

- Sedation score (every 4 hrs)
  - 0 = awake.
  - 1 = drowsy.
  - 2 = asleep, easy to arouse.
  - 3 = asleep, hard to arouse.
  - S = normal night sleep.
  - If score 1-2 day time – pay extra attention.
  - If score 3 – act in the same way as at low respiratory rate < 10!
  - If score S – no action.

**NRS (every 4 hrs)**
- NRS at rest > 3 despite patient bolus doses:
  - Call APS nurse (97026) at day time or anaesthetist (97010) on other hours.
- NRS at rest < 3, but NRS at mobiliz./cough. > 3:
  - Instruct patient to admin bolus pre-mobiliz. If no effect call APS nurse (97026) at daytime or anaesthetist (97010) at other hours.

**Hypotension treatment**
(if systolic BP < prescribed level on front page)
- 1 Lower the head (tilt the bed) or raise the legs.
- 2 Give Ringers’ Acetate 250-500 ml fast i.v. (max 15 min).
- 3 Stop the epidural infusion if no improvement.
- 4 Give inj ephedrine 5 mg/ml, 5-10 mg iv.
  - (dilute ephedrine 50 mg/ml, 1 ml + saline 9 ml).
- 5 Call anaesthetist (97010) if necessary.

**Termination of the PCEA treatment**
- Start other appropriate pain relief to avoid brake through pain.
- > 10 hrs since last LMWH dose 3500-4500 E sc. before the catheter is removed.
- Keep in-dwelling urine catheter 6 hrs after epidural catheter is removed.
- Keep iv. line 6 hrs after epidural treatment is terminated.
- Continue controls 4 hrs after epidural treatment is terminated.
- > 2 hrs after removal of the epidural catheter before new LMWH dose.
- Warfarin may not be re-instiituted before epidural catheter is removed!
- Don’t forget to fill in the "Follow-up section" on the front page!