MANAGEMENT OF PULMONARY OEDEMA IN PATIENTS WITH AKI

**IMMEDIATE MANAGEMENT**

- **Seek expert help if airway, breathing or circulation compromised**
- Nurse in upright position
- Administer High flow O2 (60 – 100% unless contraindicated)
- Obtain IV access
- If being administered IV fluids – immediately discontinue
- Monitor urine output hourly
- Perform 12 Lead ECG and CXR

**SUBSEQUENT MANAGEMENT**

- **Is patient Hypotensive?**
  - **No**
    - Loop diuretics: Was patient already taking these?
      - If diuretic naïve consider Furosemide 40mg IV.
      - If inadequate response, double the dose every 60 min up to a dose of 400mg.
      - N.B. max rate is 4mg/min.
      - If responds to bolus, put onto undiluted furosemide IV infusion via syringe pump titrated up to 10mg/hr aiming to maintain urine output at 0.5 ml/kg/hr
      - N.B. Max daily dose 1.5g
      - If known dialysis patient, also contact nephrology on call immediately
  - **Yes**
    - Consider referral to Critical Care Contact Nephrology on call team CPAP & Inotropes
      - If already on furosemide consider Furosemide 100mg IV.
      - If inadequate response, double the dose every 60 min up to a dose of 400mg.
      - N.B. max rate is 4mg/min.
      - If responds to bolus, put onto undiluted furosemide IV infusion via syringe pump titrated up to 10mg/hr aiming to maintain urine output at 0.5 ml/kg/hr
      - N.B. Max daily dose 1.5g
      - If known dialysis patient, also contact nephrology on call immediately

- **IV Isosorbide Dinitrate eg Isoket:** Commence 0.05% solution starting at 1ml/hr or 0.1% solution at 0.5 ml/hr and monitor cardiovascular status, stopping it if BP < 100mmHg and/or HR > 120/min
- **IV Diamorphine/ Morphine:** Give only if BP > 100mmHg

- **Has patient responded to treatment?**
  - **Reduced breathlessness with improvement in RR, SpO₂ and Urine output > 0.5ml/kg/hr**
  - **No**
    - Urgent senior review Contact Nephrology on call team Consider referral to Critical Care Dialysis may be required
  - **Yes**
    - Senior review and discussion with Nephrology team on-call to establish plan for ongoing care

Developed by AKI group, signed off 21/10/14 by Cheshire & Merseyside Strategic Kidney Network & Cheshire & Mersey Critical Care Network.