Dyspnoea

Dyspnoea in CKD can be due to renal and/or non-renal causes. Common aetiologies include:

- Renal: Anaemia, Fluid overload
- Non-renal
  - Chronic lung disease eg COPD, pulmonary fibrosis
  - Cardiac eg primary congestive cardiac failure, diastolic dysfunction, and unstable angina
  - Anxiety
  - General deconditioning

Management

Correct underlying aetiology if possible. Treat co-morbid anxiety. Non-pharmacological measures are the mainstay of treatment.

- **Anaemia.** Check iron, B12, folate and replace as required. For iron replete patients, consider EPO if Hb <100g/L. For non-dialysis patients with Hb<100g/L, treat anaemia to symptoms rather than biochemical targets.
- **Fluid overload.** May be both renal and cardiac causes
  - Restrictions to sodium and water intake
  - Loop diuretics (frusemide or bumetanide): may require higher doses to achieve diuretic effect. Will need electrolyte monitoring.
  - Consider intravenous diuretics in resistant cases, as gastrointestinal oedema may affect oral drug absorption.

Non-pharmacological management

- Hand held fan.
- Gentle physical exercise to improve conditioning.
- Energy conservation strategies.

Oxygen

Oxygen therapy has *not* been shown to be better than placebo in patients with normal oxygen saturation.

Consider palliative oxygen in hypoxic patients.

Pharmacological management

Opioids are first-line treatment. Hydromorphone: start with 0.25mg-0.5mg po tds, and up-titrate by 0.25mg to effect (max 4mg over 24 hours)

Benzodiazepines can be added to opioids.
- Lorazepam 0.5mg sublingually bd to tds. Uptitrate by 0.5mg to 1mg tds.
- In acute cases, midazolam 2.5-5mg subcut can be used in addition to opioids