Vancomycin Prescribing and Therapeutic Drug Monitoring Clinical Guideline – Appendix 3. Guideline Summary

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Loading dose by actual body weight

>90kg	60-90kg	<60kg
2000mg in 500ml over 200 minutes	1500mg in 500ml over 150 minutes	1000mg in 250ml over 100 minutes

Infusion fluid - sodium chloride 0.9% or glucose 5%

Prescribe maintenance dose based on eGFR. The interval between the loading dose and the first maintenance dose should equal the interval between maintenance doses.

Maintenance dose ladder

eGFR (ml/min)	Dose (mg)	Fluid (normal saline 0.9% or glucose 5%)	Infusion period
>90	1500 BD	500ml	150 minutes
75-89	1000 BD	250ml	100 minutes
55-74	750 BD	250ml	75 minutes
40-54	500 BD	250ml	50 minutes
30-39	750 OD	250ml	75 minutes
20-29	500 OD	250ml	50 minutes
<20 (not on dialysis)	500 every 48 hours	250ml	50 minutes

Take trough vancomycin levels before the 3rd or 4th dose (before 3rd dose if once daily), and within one hour of the dose due.

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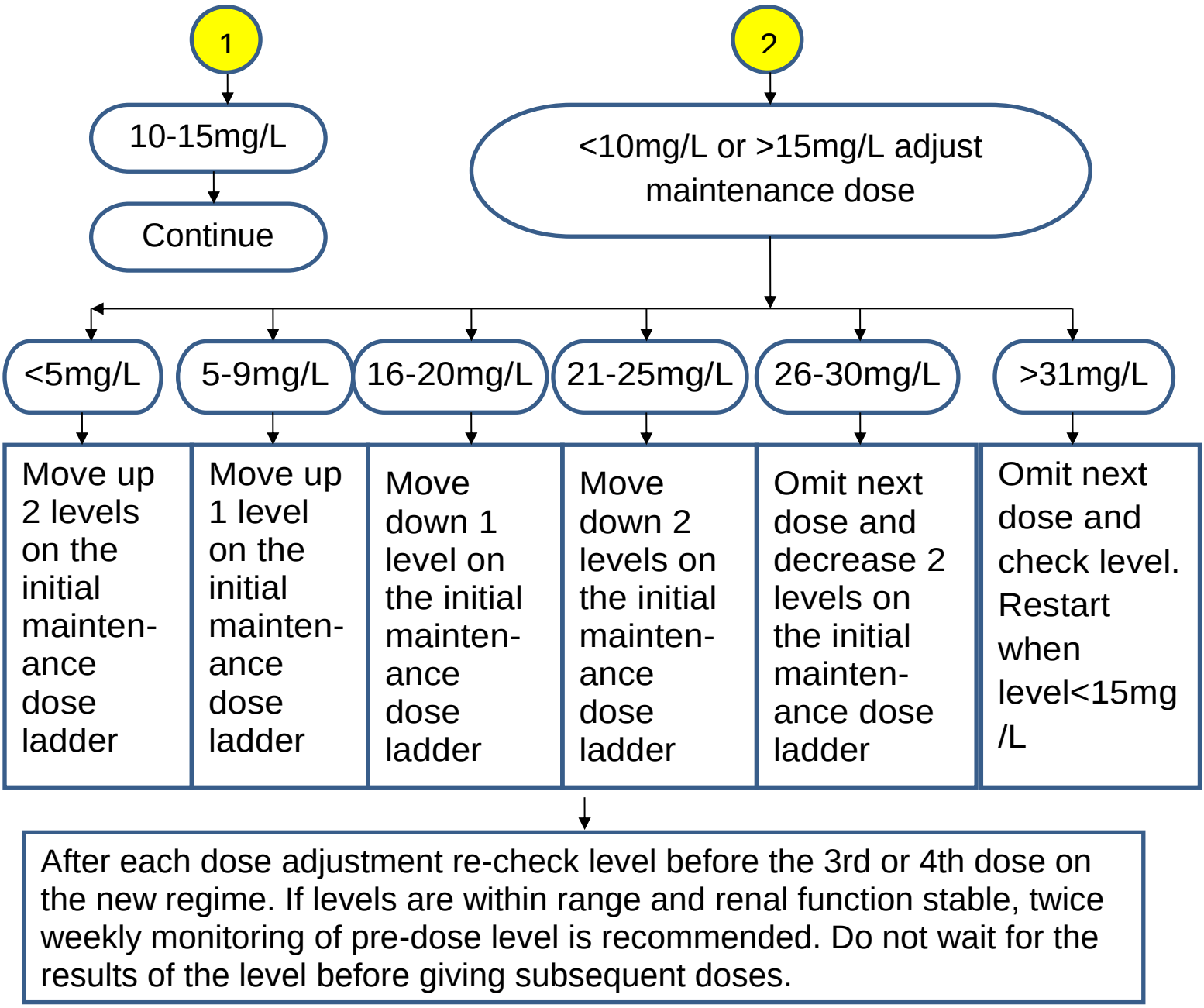

After each dose adjustment re-check level before the 3rd or 4th dose on the new regime. If levels are within range and renal function stable, twice weekly monitoring of pre-dose level is recommended. Do not wait for the results of the level before giving subsequent doses.

The Guidance

- Vancomycin has bactericidal activity against aerobic and anaerobic gram-positive organisms.
- For Indications refer to the Trust's antibiotic guidelines.
- Oral Vancomycin may be used for the treatment of antibiotic associated colitis. Oral Vancomycin is **not** effective for the treatment of systemic infections. Likewise intravenous Vancomycin is not effective for the treatment of antibiotic associated colitis.
- Vancomycin has a potentially toxic side effect profile. Side effects include:
  - Nephrotoxicity
  - Ototoxicity
  - Anaphylaxis
- Vancomycin should be used with caution in any patients with an impaired renal function. Due to a reduced rate of drug clearance and the potential for accumulation, this group of patients is particularly susceptible to the adverse effects of vancomycin therapy.
- This policy is not designed for the following patients;
  - Pregnant
  - Breast feeding
  - <16 years of age
  - CAPD peritonitis

Monitoring and Prescribing

- Target trough levels are 10-15mg/l and should be taken immediately prior to next dose.
- In patients with eGFR<20mls/min repeat doses should not be given until levels are reported by Clinical Chemistry as satisfactory. It is not necessary to wait for levels prior to the next dose in patients in the other groups.

- For patients undergoing renal replacement or those with eGFR less than 20 ml/min, initial doses should be prescribed as doses.

Administration

- The infusion concentration should be 5mg/ml and in patients with fluid intake restriction not exceed a maximum of 10mg/ml. The infusion duration should be at least 60 minutes or 10mg/min whichever is greater (i.e. for 1g the infusion rate would be 100 minutes minimum).
- Each 500mg of Vancomycin should be reconstituted with 10mls of water for injection and then further diluted to the required volume with normal saline 0.9%.

General Information

- Specimens for Vancomycin assays should:
  - Be sent to Clinical Chemistry.
  - Be sent in a clearly labeled vacutainer (Gold top tube).
  - Be 5mls of clotted blood (adequate also for all routine chemistry)
  - Available 24/7
- The following details are essential:
  - Time specimen taken
  - Dose and frequency of Vancomycin therapy
- Levels do not need to be completed for those patients receiving oral Vancomycin