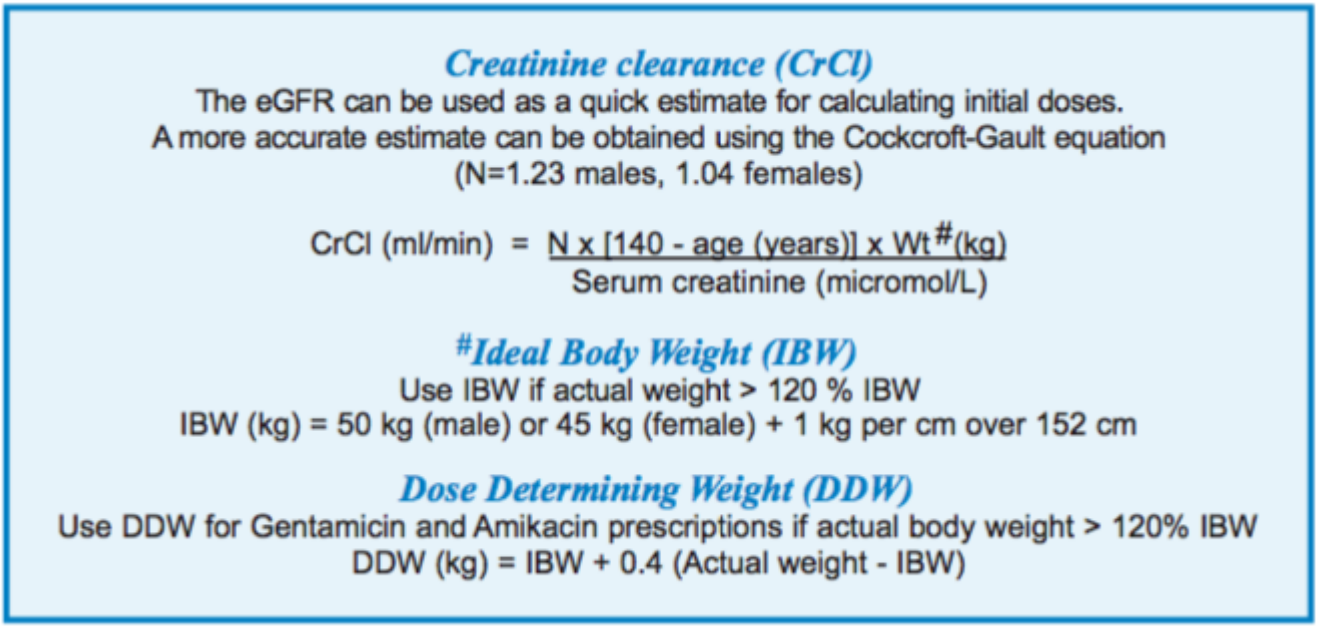
MEG Demo (Staff App) - MEG Demo - MEG Staff app: Antimicrobial Stewardship

Interactions and CrCl

Dosing and Interactions



Dosing and Monitoring

Antimicrobial Restrictions

Always refer to the Medicines Formulary for antimicrobial restrictions. Where the specialist unit is not available at the hospital, always seek input from the Infectious Diseases (ID) unit.

Empiric Treatment of Infective Exacerbation of COPD/Bronchitis

Empiric Treatment of Infective Exacerbation of COPD/Bronchitis

Check history of infection/ colonisation with Multi Drug Resistant Organism (MDRO

Infection	Common Pathogens	Treatment	If Penicillin Hypersensitive
Exacerbation of COPD/Bronchitis	*S. pneumoniae* *H. influenzae*	**Mild:** Generally no antimicrobials required **Moderate-Severe:** Co-amoxiclav 625mg TDS PO/ 1.2g TDS IV +/- ADD Clarithromycin 500mg BD PO/ IV **Duration:** 7 days **Moderate-Severe exacerbation, previous colonisation with P. *aeruginosa* :** Treat as HOP/HCAP - see HOP/HCAP guideline	**Mild:** Generally no antimicrobials required **Moderate-Severe:** Doxycycline 100mg BD PO **Moderate-Severe exacerbation, previous colonisation with P. *aeruginosa* :** Treat as HOP/HCAP - see HOP/HCAP guideline

References:

- BTS Guidelines for the Managment of Community Acquired Pneumonia in Adults Update 2009
- Antimicrobial Stewardship Committee Empiric Treatment of CA-LRTI Algorithm - September 2017
- NICE: Pneumonia in adults: diagnosis and management Clinical Guideline Published 3.12.14 Available at: nice.org.uk/guidance/cg191
- Up-to-date. Management of exacerbations of chronic obstructive pumlonary disease. Accessed 05.01.18 https://www.uptodate.com/contents/management-of-exacerbations-of-chronic-obstructive-pulmonary-disease?search=exacerbation of copd&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1
- NICE: Chronic Obstructive Pulmonary Disease. Care Pathway - July 2017 https://pathways.nice.org.uk/pathways/chronic-obstructive-pulmonary-disease

2.1 Prevention of Cardiovascular Disease (CVD)

Goals & Target Levels for Important Cardiovascular Risk Factors

Smoking	No exposure to tobacco in any form
Diet	Low in saturated fat with focus on wholegrains, vegetables, fruit and fish.
Physical activity	3.5-7 hours moderately vigorous activity per week or 30-60 mins most days.
Body weight	BMI 20-25. Waist circumference < 94cm (men) or < 80cm (women)
Blood Pressure	< 140/90 mmHg in most. For information on targets outside of this, See section 2.2 (hypertension)
Lipids	See section 2.4 lipids)
Diabetes	HbA1c <7% (<53 mmol/mol)
Alcohol	Limit to 1 unit (10g)/ day or no more than 10 units (100g)/week

Prevention of Cardiovascular Disease - Risk Assessment

- Individuals automatically at high to very high CV risk (see table below) do not need risk assessment and require immediate attention to risk factors.
- Risk is defined in terms of the absolute 10 year probability of developing a fatal cardiovascular event. The threshold for high risk is defined as 5% or greater.
- Systematic risk assessment is recommended in individuals at increased CV risk i.e. with family history of premature CVD, familial hyperlipidaemia, major risk factors (e.g. smoking, high BP, DM or raised lipid levels, or co-morbidities increasing CV risk.)
- Systematic risk assessment may be considered in adults >40 years with no known CV risk factors.
- The SCORE (Systematic Coronary Risk Evaluation model) risk charts available at http://www.escardio.org/Guidelines-&-Education/Practice-tools/CVD-prevention-toolbox/SCORE-Risk-Charts estimate the 10 year risk of fatal CVD and are recommended for risk assessment. They are an aid to making decisions on how intensively to intervene on lifestyle, and whether to initiate or intensify drug therapy (Ireland classed as " **low risk** " region). An interactive tool for predicting and managing the risk is available at www.heartscore.org .
- There are limitations of using the SCORE charts. For example, in young patients and older patients, and in subclinical hypertensive organ damage which markedly increases risk.
- Apart from major risk factors in the charts there are other modifiers that may be relevant for assessment of total risk e.g. psychosocial factors, family history of premature CVD and BMI amongst others. Refer to ESC Guidelines. Assessment of risk modifiers is of value when risk is close to a decisional threshold such as a SCORE risk of 5%.

Priorities for CVD Prevention in Clinical Practice

Individuals at highest risk gain most from preventative efforts. This guides the priorities.

Very High-Risk	• Documented CVD, clinical or unequivocal on imaging • DM with target organ damage e.g. proteinuria or with at least 3 major risk factor e.g. smoking or marked hypercholesterolaemia or hypertension or early onset T1DM of long duration (>20years) • Familial hypercholesterolaemia with CVD or another major risk factor • Severe CKD (CrCl <30mls/min) • A calculated SCORE ≥10%
High-Risk	• Markedly elevated single risk factors, in particular total cholesterol >8mmol/L, LDL cholesterol >4.9 mmol/L or BP≥180/110 • Familial hypercholesterolaemia without other major risk factors • DM without target organ damage with DM ≥10 years or an additional risk factor • Hypertensive LVH • Moderate CKD (CrCl 30-59ml/min) • A calculated SCORE ≥5% and <10%
Moderate-Risk	• Young patients (T1DM<35yrs, T2DM <50yrs) with DM <10yrs without any other risk factors. • SCORE ≥ 1% and <5% at 10 years
Low-Risk	Score <1%

In most asymptomatic patients, preventive actions should be guided by the total CVD risk. Risk factor management decisions are not usually based on a single modestly raised risk factor.

Key References

1. European Guidelines on Cardiovascular Disease Prevention in Clinical Practice European Heart Journal (2016) 37(29): 2315-2381; 1635-1701. https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines/CVD-Prevention-in-clinical-practice-European-Guidelines-on
2. ESC/ESH Guidelines for the management of arterial hypertension, European Heart Journal (2018) 3 (33) 3021–3104. https://academic.oup.com/eurheartj/article/39/33/3021/5079119
3. ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk European Heart Journal (2019) https://academic.oup.com/eurheartj/advance-article/doi/10.1093/eurheartj/ehz455/5556353