



Guide for initiation and up-titration of beta-blockers in patients with heart failure

Background

Before starting on beta-blockers patients should ideally be assessed as having:

- Chronic heart failure
- Left ventricular systolic dysfunction less than 45% (diagnosed via ECHO)
- Mild to moderate symptoms (NYHA II – III)
- No hypotensive symptoms
- No second or third degree heart block *
- No asthma or COPD requiring salbutamol
- No severe liver disease

* If the patient has first degree heart block (PR interval greater than 0.2 seconds) an ECG is necessary before each dose increase – if you do not have ECG access discuss with cardiology

If initiating beta-blocker...

- Start only if:
 - Patient's heart failure has stabilised and there are no symptoms of worsening heart failure such as paroxysmal nocturnal dyspnoea
 - No symptomatic bradycardia, hypotension or heart block
- Start with low dose e.g. **metoprolol 23.75mg daily** or **carvedilol 3.125mg BD** (see over)
- Provide the patient with Heart Failure Action Plan

When up-titrating dose...

- Dose may be doubled every two weeks. Some patients may require a slower titration
- Aim for a target dose of **metoprolol 190mg daily** or **carvedilol 25mg BD** or maximum tolerated dose

Ask about:

- Any problems the patient has been experiencing. If the patient has experienced symptomatic bradycardia, hypotension or heart block – **do not increase** the beta-blocker
- Any symptoms of worsening heart failure (occasionally the frusemide dose may have to be increased)
- Dizziness - this is common with carvedilol, but often decreases if persist with treatment

Examination:

- Weight
- Pulse
- Blood pressure
- Chest auscultation
- JVP

Up-titrate only if:

No symptomatic bradycardia

- No signs of overt congestion
- No symptomatic hypotension
 - **Note:** Patients will often have systolic blood pressure below 100 mmHg and not be symptomatic
- Euvolaemic i.e. no recent severe diuresis
- Repeat ECG every visit if first degree heart block at initiation of beta-blocker

Increase dose:

| | Metoprolol | Carvedilol |
|---------------------------|----------------------|-------------------|
| Start dose | 23.75mg daily | 3.125mg BD |
| 1 st titration | 47.5mg daily | 6.25mg BD |
| 2 nd titration | 95mg daily | 12.5mg BD |
| Target dose | 190mg daily | 25mg BD* |

*May increase up to 50mg BD for those over 85kg

Explain:

- The benefits of beta-blockers to the patient – mortality (30-35% reduction), admissions (28% reduction), promotes wellness
- The beta-blocker must not be stopped suddenly
- Some side-effects are common (tiredness, shortness of breath) but improve with time. It may take a while to feel better
- If the patient is worried about symptoms from increasing doses, advise them to start the new dose on a Monday, rather than just before or during the weekend when your surgery may be closed
- How to respond to any symptoms experienced with the new dose (e.g. dizziness, tiredness, shortness of breath)

| If the patient..... | then advise to... |
|------------------------|--|
| feels good | keep going |
| gets mild symptoms | keep going and see if symptoms improve |
| gets moderate symptoms | drop back to previous dose |
| gets severe symptoms | drop back to previous dose and call doctor |

Arrange:

- Another GP appointment at least 2 weeks after each dose increase