DISTRICT HANDBOOK

General Practitioners
Flexible Diuretic Guidelines
PURPOSE
The purpose of this Clinical Stream Handbook is to provide General Practitioners with information relating to the District Clinical Stream Procedure on managing a flexible diuretic program for patients with chronic heart failure. The role of Heart Failure Nurses and their specific responsibilities are also attached for your information.

GUIDELINES
Diuretic therapy is important in relieving the oedematous symptoms of CHF. Flexible diuretic regimens are useful in the management of CHF and have demonstrated relief of symptoms. In patients with fluid overload, the aim is to achieve an increase in urine output and weight reduction of 0.5 - 1 kg daily, generally with loop diuretics, until euvolaemia (evaluated from clinical symptoms and signs as well as the patient’s body weight) is achieved. Flexible diuretic regimens can be managed by medical/nursing personnel or by patients under the supervision of medical/nursing personnel.

Patients who optimally should be considered for a flexible diuretic regimen are those:
- Who are currently maintained on frusemide or no diuretic
- Who have had an admission to hospital with a clinical diagnosis of congestive heart failure (systolic and/or diastolic failure) and further signs of venous congestion (elevated jugular venous pressure, presence of crepitations and presence of peripheral oedema)
- Already on optimal pharmacological therapy as tolerated.
- Able to self-monitor weight daily or patients with carer or in dependent care
- Ability to complete a diary and understand titration instructions or have a carer able to assist

Exclusion Criteria
- Known allergy to loop diuretics or sulphonamides
- Documented cognitive impairment and absence of responsible carer
- Known barrier to compliance

Caution and precautions
It is important to note that escalating diuretic requirements may indicate worsening CHF, worsening renal function and/or diuretic resistance. Addition of spironolactone may be considered in this situation provided that serum potassium and renal function are acceptable. Alternatively, administration of an oral thiazide or intravenous frusemide may overcome resistance to oral frusemide. Consult with a cardiologist/local specialist if in doubt.

Recommended dosage adjustment:

Oral administration
For patients who are not currently prescribed frusemide:
- The dose will be initiated according to their weight gain, i.e. 20 mg per kg weight gained
- If no weight gain but other symptoms are apparent as listed above, a dose of 20-40mg daily will be initiated.

For patients who are currently prescribed frusemide a dose adjustment of 40mg per day for 2 days, as follows:

<table>
<thead>
<tr>
<th>Current dose</th>
<th>Adjusted dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>40mg mane</td>
<td>80mg mane</td>
</tr>
<tr>
<td>80mg mane</td>
<td>80mg mane, 40mg midi</td>
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<tr>
<td>80 mg mane, 40mg midi</td>
<td>80mg BD</td>
</tr>
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Patients on larger dose of frusemide may benefit from an increase in the dose to the maximum recommended dose of 500mg daily.

Parenteral Administration
Parenteral dosing with frusemide should be considered if there are ongoing signs and symptoms of fluid retention after flexible dosing with oral frusemide.
- Initiate at a dose of 20 - 80 mg
- To avoid ototoxicity IV doses will be administered no faster than 4mg/minute.

NB: The oral bioavailability of frusemide is about 50% (i.e. 20 mg IV is equivalent to 40 mg oral).
After initiation or any change in the diuretic dose, blood chemistry (UEC) should be checked within two to three days and potassium imbalance managed with consideration of concomitant therapy.
NURSING AUTHORISATION FOR ADJUSTING A FRUSEMIDE DOSE

This prescription authorises (INSERT NAME OF SERVICE) to initiate the following dose adjustment of frusemide based on the clinical guidelines overleaf.

The flexible diuretic regime will be implemented when the following symptoms occur:

- Weight gain of 2kg/4lb over 2-3 days
- Increasing shortness of breath and/or nocturnal dyspnoea
- JVP raised above 4cm
- Increased ankle swelling or abdominal swelling with severe leg oedema

Recommended dosage adjustment:

The patient should be advised to increase their dose of Frusemide by 40mg per day for 2 days, as follows:

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**If the patient is taking 80 mg twice daily, the HF nurse should contact their GP/Cardiologist for further advice.**

The patient’s diuretic dose should be increased initially for two days and the patient should be reviewed by the HF nurse in consultation with the patients’ GP following changes to diuretic dose.

Medical Practitioner signature: __________________________________________

Designation: __________________________________________________________

Date: __________________________________________________________________

(PLEASE FAX THIS AUTHORITY WITHIN 24 hrs to ..........

(Authority valid for 3 months from date of signature)
NURSING GUIDELINES FOR ADJUSTING FRUSEMIDE DOSE

Diuretic therapy is important in relieving the symptoms of fluid retention associated with CHF. Flexible diuretic regimens are useful in the management of CHF and have demonstrated relief of symptoms and reduced incidence of unplanned hospitalisation.

Prior to adjusting the frusemide dose, ensure that the following have been organised:

- A signed authorisation has been provided by the GP. If the GP is unavailable a Cardiologist may provide authorization.
- Ensure the ‘ideal dry weight’ has been recorded.

Action:

Monitor and record:

1. Weight
2. Pulse, B.P & lung sounds
3. Assess JVP
4. Assess for peripheral oedema

If the patient is hypotensive (systolic pressure < 100mmHg) associated with symptoms of dizziness, consult with the GP or Cardiologist prior to initiating regime.

<table>
<thead>
<tr>
<th>Initiate adjusted frusemide dose when one or more of the following occur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid weight gain (2kg/4lb in 2 days) or,</td>
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<tr>
<td>Raised JVP or</td>
</tr>
<tr>
<td>Peripheral oedema (2+ on oedema scale) including swelling of the abdomen</td>
</tr>
<tr>
<td>Increased dyspnoea and lung congestion on auscultation or,</td>
</tr>
<tr>
<td>Nocturnal dyspnoea (&gt; 2 nights)</td>
</tr>
</tbody>
</table>

Patient must be reviewed the following day and symptoms reassessed.

After 2 days the patient’s condition to be reviewed in consultation with a medical practitioner.
Patient Information Sheet

Action Plan for adjusting your frusemide dose
(To be approved and signed by your GP or Cardiologist)

Name: ________________________________

It is important to detect fluid build up early and treat it promptly. “REMEMBER: THE EARLY WARNING SIGNS”

A simple way of monitoring if you are retaining fluid is to weigh yourself daily.

“Weight gain often means fluid build up”
“1Kg(2lb) = 1 litre body fluid”

It is important that you weigh yourself at the same time every day and in similar clothing.
If your weight increases by more than 2kg (4lb) over 1-2 days or you:
- Feel more short of breath than usual
- Wake up at night due to shortness of breath
- Need to sit upright to breathe properly
- Notice swelling in your ankles, legs or abdomen

“You need to initiate your action plan”

Take an extra………. mg (…. tablets) of your frusemide (INSERT BRAND NAME).

If your symptoms improve by the next day go back to your usual dose.
If your symptoms persist make an appointment to see your GP within 24hrs

CAUTION!!
Do not take extra Frusemide (INSERT BRAND NAME) if you are experiencing any of the following:
- Rapid weight loss below your normal weight (more than 2kg/4lb)
- Develop a temperature or infection
- Develop diarrhoea or experience vomiting for a number of days
- Feel dizzy or giddy

If any of these symptoms occur- THEN contact your GP within 24hrs.

Medical practitioner signature: ________________________________