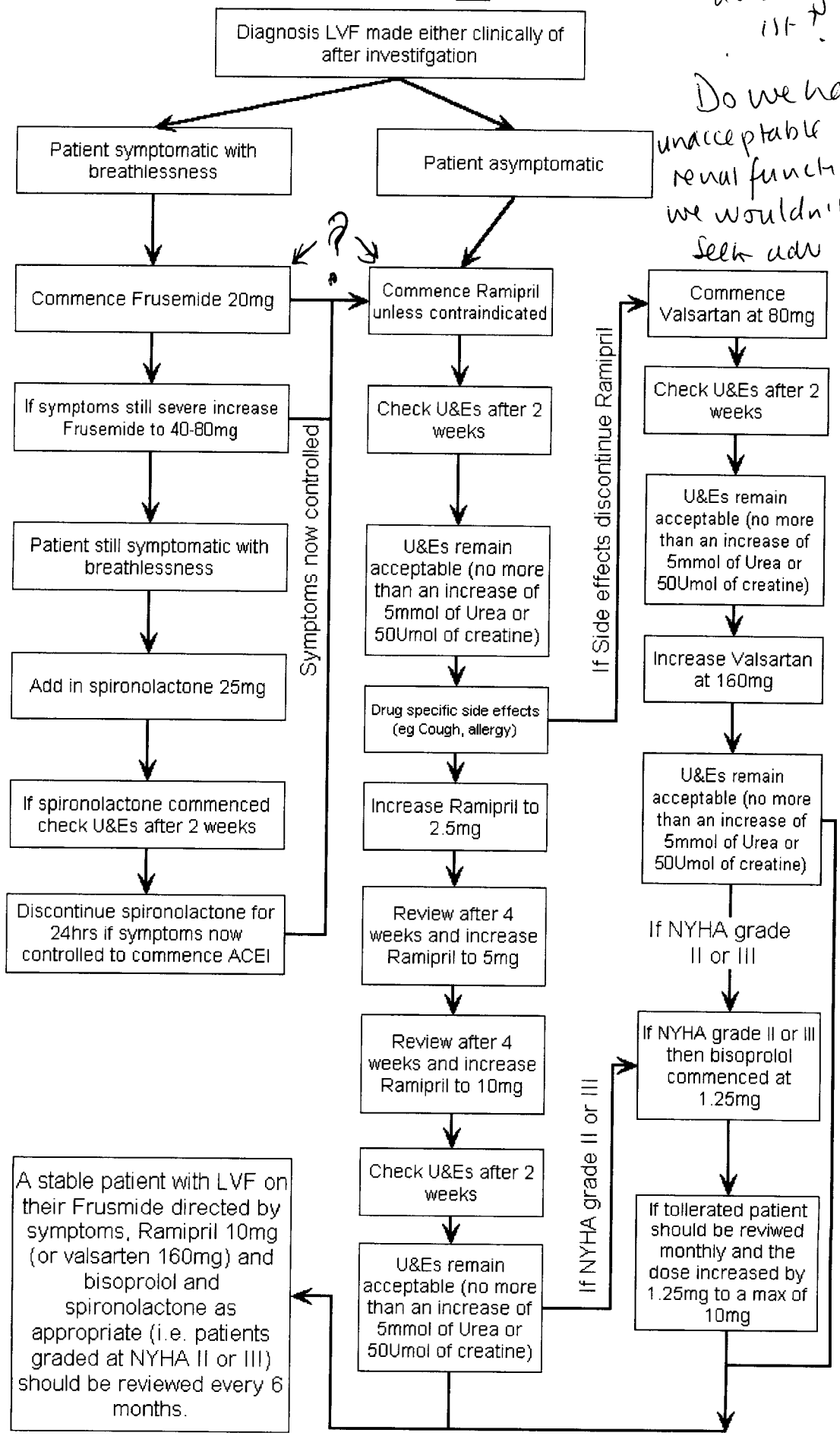
Please explain how follow arrows - do we go down LHS 1st?

Do we have an unacceptable level of renal function @ which we wouldn't R+/or seek adv

CARDIOLOGY Heart Failure Protocol

North Bradford CCT NHS



CARDIOLOGY Heart Failure Protocol

North Bradford CCT NHS

Long. Complicated Weight / BMI Peak flow

Assistance with clinical Diagnosis.

When assessing a breathless patient and considering LVF seeking the following features may help the decision process.

Management hard to follow, espec for elderly. Where will PNs (NPs) fit in.

a) Breathlessness at rest
b) Nocturnal breathlessness or cough
c) Nocturnal sweating
d) Peripheral oedema
e) Weight gain
f) Exercise intolerance

Attention should also be given to the drug and past medical history, in particular:

a) Recently commenced NSAID
b) Recently commenced betablockers or verapamil
c) Recently commenced soluble analgesia
d) Past AMI
e) Past hypertension
f) Past structural heart disease (valvular lesions, congentital heart disease).
g) Diabetes
h) Alcohol excess

A general examination should be performed, particularly paying attention to:

a) Weight gain
b) Peripheral oedema
c) Elevated JVP
d) Tachycardia
e) Atrial fibrillation
f) 3rd heart sound
g) basal crepetations

If heart failure is clinically suspected then the following investigations would be mandatory:

a) FBC
b) U&E
c) LFTs
d) Fasting blood sugar and lipid profile
e) TFTs
f) ECG: If the ECG is normal it would be unusual for the diagnosis to be left ventricular systolic dysfunction (only 5%) and attention should be also given to alternative diagnosis including IHD or respiratory illness.
g) CXR

Echocardiography would be regarded as the gold standard in the diagnosis of LVF however there is currently no direct access from primary care for this service.

A suggested pragmatic method of diagnosis in this setting follows:

- If the CXR clearly shows changes consistent with LVF then treat as LVF.
- If the CXR suggests changes more consistent with respiratory illness pursue that diagnostic line unless strong clinical suspicion, in which case refer to cardiologist for Echo
- If CXR normal except abnormal C/T ratio refer to cardiologist for Echo
- If CXR normal review ECG
- If ECG normal consider alternative diagnosis. May be appropriate to check RFTs or ETT if exertional breathlessness. If no other clear diagnosis consider referral to cardiologist for assessment.

CARDIOLOGY Heart Failure Protocol

- If ECG reveals LBBB or previous Q wave infarction, with strongly suggestive LVF. Code and treat as LVF
- If ECG reveals LVH consider referral to cardiologist for Echo
- If ECG reveals RBBB, this can be a normal variant or scar from previous anterior AMI. Review past history.

If a diagnosis of Left ventricular systolic dysfunction is made then the patient should be assessed. This should include:

a) Vital signs
b) Weight
c) Symptoms
d) NYHA function:
   I. No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitations, dyspnoea or anginal pain
   II. Slight limitation of physical activity. Comfortable at rest. Ordinary physical activity results in fatigue, palpitations, dyspnoea or anginal pain.
   III. Marked limitation of physical activity. Comfortable at rest. Less than ordinary activity causes fatigue, palpitations, dyspnoea or anginal pain.
   IV. Unable to carry on any physical activity without discomfort. Symptoms of heart failure or anginal syndrome may be present at rest. If any physical activity is undertaken, discomfort is increased.

Treatment should be commenced as follows:

1) Frusemide should be commenced at low dose (20mg) if symptoms are mild.
2) Frusemide should be increased to 40-80mg if symptoms are more severe.
3) If assessed at grade III or IV spironolactone should be commenced at 25mg.
4) If patient already on an ACEI then U&Es should be reassessed in 2 weeks after spironolactone commenced.
5) Ramipril should be commenced starting at 1.25mg. UNLESS contraindicated due to Renal artery stenosis, significant aortic valve disease, renal failure or previous allergy to ACEI.
6) If ACEI cannot be commenced the patient's notes should be coded appropriately. CONTINUE TO STEP 14
7) U&Es should be repeated in 2 weeks
8) If U&Es remain acceptable (no more than an increase of 5mmol of Urea or 50Umol of creatine) then the ramipril should be increased to 2.5mg.
9) As long as the patient does not develop symptoms of light-headedness the ramipril should be increased by 2.5mg every 4 weeks to a maximum of 10mg.
10) If symptoms of light-headedness develop then further increase of dose should be delayed
11) If ramipril is not tolerated due to cough or other drug specific side effects develop Valsarten should be commenced starting at 80mgs and being increased to 160mg after one month.
12) If valsarten is commenced then the U&Es should be reassessed after 2 weeks.
13) Once a maximal dose of ramipril or valsarten have been achieved the U&Es should be reassessed. If found to be acceptable they should then be repeated once a year.
14) If patient NYHA graded at II or III then bisoprolol should be commenced. Starting at a dose of 1.25mg.
15) Patient should be reviewed monthly and the bisoprolol dose increased by 1.25mg monthly to a maximum tolerated or to a maximum of 10mg.
16) A suggestion would be that a stable patient with LVF on their Frusmide directed by symptoms, Ramipril 10mg (or valsarten 160mg) and bisoprolol and spironolactone as appropriate (i.e. patients graded at NYHA II or III) should be reviewed every 6 months.