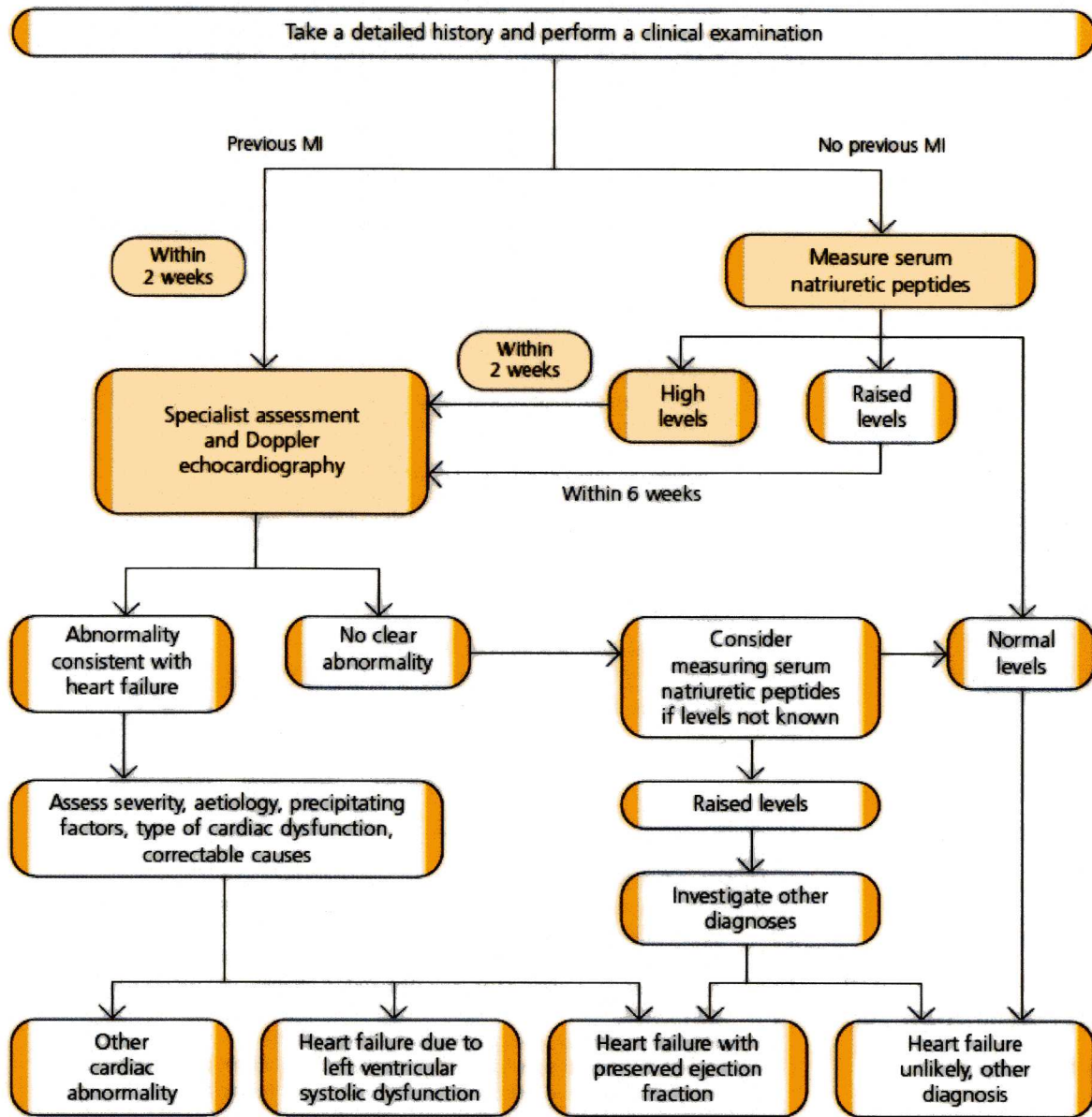


# Diagnosing heart failure



## Symptoms and signs of heart failure

	sensitivity %	specificity %
Dyspnoea	66	52
Ankle swelling	23	80
Orthopnoea	21	81
PND	33	76
Fatigue		

Signs: tachycardia, displaced apex, gallop rhythm, elevated JVP, leg and sacral oedema, hepatomegaly, ascites.

## Other investigations:

FBC  
 Biochemical profile  
 TFT  
 Fasting sugar and lipids  
 Urinalysis  
 ECG  
 CXR  
 Peak flow or spirometry

## Serum natriuretic peptides:

Expensive test, please do not use as breathlessness screen !

	NTPro-BNP	BNP
High	> 2000 pg/ml (236pmol/l)	> 400 pg/ml (>116 pmol/l)
Raised	400-2000 pg/ml (47-236pmol/l)	100-400pg/ml (29-116 pmol/l)
Normal	< 400pg/ml (47pmol/l)	< 100 pg/ml (< 29 pmol/l)

Other causes of elevated BNP/NT-BNP include ischaemia, tachycardia, LVH and chronic renal failure.

BNP may be normal in very well controlled heart failure.

## Differential diagnoses to consider:

Obesity  
 Chest disease including COPD  
 Venous insufficiency lower limbs  
 Drug induced ankle swelling esp calcium ch blockers  
 Drug induced fluid retention eg NSAIDs  
 Hypoalbuminaemia  
 Renal or hepatic disease  
 Pulmonary embolism  
 Depression and/or anxiety  
 Severe anaemia  
 Thyroid disease

## Aetiology

Ischaemic heart disease  
 Hypertension  
 Valvular disease  
 Dilated cardiomyopathy  
 Hypertrophic cardiomyopathy  
 Pulmonary disease  
 Alcohol  
 Chemotherapy  
 Tachycardiomyopathy  
 etc

## NYHA Classification

- I no limitations, no symptoms with ordinary physical activity
- II slight limitation, symptoms with ordinary activity
- III marked limitation, symptoms with less than ordinary activity
- IV breathless at rest, any physical activity increases symptoms

Symptoms: dyspnoea, fatigue, palpitations

## Diastolic HF (Heart Failure with Preserved Ejection Fraction - HFPEF)

Just because LV function is normal, doesn't mean it isn't heart failure but only consider if HF-PEF if BNP elevated. Due to reduced ventricular filling in diastole eg stiff ventricle or loss of atrial kick in AF. Typical picture is elderly hypertensive with fluid retention. Difficult to diagnose, echocardiogram may show 'diastolic markers' or left ventricular hypertrophy but absence of these doesn't necessarily rule it out.



