Part one: heart failure assessment pathway

Framingham criteria for suspected heart failure: 2 major or 1 major + 2 minor

**Major**
- Paroxysmal nocturnal dyspnoea (PND)/orthopnoea
- Jugular vein pulse (JVP)
- Hepatogenous reflux
- S3 gallop
- Basal crepitations
- Cardiomegaly on chest X-ray (CXR)
- Pulmonary oedema on CXR

**Minor**
- Shortness of breath on exertion (SOBoE)
- Night cough
- Ankle oedema
- Heart rate (HR) 120+ beats per minute (bpm)
- Hepatomegaly
- Pleural effusion

**High-risk features → admit cardiac care unit (CCU)**
- Acute coronary syndrome (ACS)
- Complex arrhythmia (other than atrial fibrillation (AF))
- Shock
- Respiratory failure

Consider alternative diagnosis: congestive cardiac failure (CCF) unlikely

**B-type natriuretic peptide (BNP)**

- <100 pg/ml
- 100–400 pg/ml
- >400 pg/ml

Known heart failure
- Watch list of at-risk patients
- Previous echo with ↓ left ventricular function

**New York Heart Association (NYHA) IV**
- >3 admissions in 12/12 CCF
- Respiratory rate (RR) >40 or $O_2$ saturation <90%
- Systolic blood pressure (SBP) <110 mmHg >220
- HR >130 bpm
- 2+ kg above dry weight
- Creatinine >300 μmol/l
- Multiple comorbidities

Yes to any

**Ambulatory care pathway (see overleaf)**

No to all

**Admit to heart failure specialist unit**

Yes to any

**Screening echo***

Normal

Abnormal

Other abnormality (consider cardiology referral)

*Acute assessment unit (AAU) screening echo service
Monday to Friday 8–9am and 3–4pm
All patients who fulfil criteria will be scanned.
All abnormal scans will prompt formal department transthoracic echocardiogram (TTE).
Part two: ambulatory care pathway

(Following from part one: heart failure assessment pathway)

**Furosemide dose**
*Furosemide-naive patient (pt):*
- Serum creatinine <200 μmol/l: 80 mg IV
- Serum creatinine >200 μmol/l: 120 mg IV

*Chronic enteral Rx:*
Current enteral dose as IV bolus max 120 mg

Peak diuresis usually within 30–60 minutes; usually >500 ml in 2 hours

**Reassess 2–4 hours**

- Subjective improvement
- No ischaemic chest pain
- No new arrhythmia
- Resting heart rate <100 bpm
- Systolic BP >90 mmHg <160 mmHg
- Room O₂ saturations >90% (unless on home oxygen)
- Return to baseline weight (wt) or decrease in wt
- Troponin –ve
- Stable urea and electrolytes (U&E)
- Total urine output (OP) >1l

**Yes to all**

Discharge patient home
Fax both sides of this sheet to ambulatory care service of heart failure specialist unit for follow-up within 24 hours

**No to any**

Admit to heart failure specialist unit

**Total IV furosemide dose in AAU: mg**

*Adapted with permission from the South Tees NHS Foundation Trust Heart Failure Team*