

# In your best Entrests: a case study on the use of Entresto in Heart Failure

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## Objectives

Australia's ageing population come with an increased prevalence of age-related diseases, including heart failure (HF). The HF treatment regimen has remained relatively constant due to limited new agents, however the recent approval of Entresto (sacubitril/valsartan) in Australia has the potential to significantly change practice. This case study examined the emerging role of Entresto in HF using a multidisciplinary approach involving pharmacists, doctors and nurses.

## Clinical features

The case involved a 74-year-old female Caucasian patient who presented in 2016 with an infective-exacerbation of chronic obstructive pulmonary disease (COPD) with a background of left-sided HF (left ventricular ejection fraction of 22%, 2016), hypertension, STEMI, COPD and osteoporosis. Her HF medication consisted of Ramipril 7.5mg, Nebivolol 7.5mg, Spironolactone 25mg and Frusemide 20mg PRN.

## Interventions and case progress

- At the time, Mackay Base Hospital was conducting a free Entresto trial (prior to PBS endorsement)
- Although the patient was admitted for a non-HF related admission, the pharmacist identified the patient's poor LVEF and liaised with the cardiac failure CNC and cardiologist to commence the patient on Entresto
- Prior to commencement the patient completed a self assigned NYHA Heart Failure assessment (SA-NYHA HF *Figure 1*), a six-minute walk test and an Assessment of Quality of Life – 8D survey (AQoL-8D)
- The patient was ceased on Ramipril and initiated on Entresto 24/26mg twice daily with regular follow up outpatient appointments with the cardiac failure CNC and cardiologist for 12 months
- The patient completed another SA-HYHA HF assessment, a six-minute walk test and an AQoL-8D after 3 months of treatment (*Figure 2,3*)

**Figure 1.** The Self Assigned NYHA heart failure assessment

Please tick **one** box containing the description which best summarizes your ability to do physical activity **before coming into hospital**:

I can perform all physical activity without getting short of breath or tired, or having palpitations.

I get short of breath or tired, or have palpitations when performing more strenuous activities. For example, walking on steep inclines or walking up several flights of steps.

I get short of breath or tired, or have palpitations when performing day to day activities. For example, walking on the flat.

I feel breathless at rest, and am mostly housebound. I am unable to carry out any physical activity without getting short of breath or tired, or having palpitations.

SA-NYHA, self-assigned New York Heart Association.

## Results

Self Assigned NYHA heart failure assessment (0 and 3 months)

- **Before** – Level 3 (NYHA class III moderate heart failure)
- **After** – Level 2 (NYHA class II mild-moderate heart failure)

Six-minute walk test (0 and 12 months)

- **Before** – 25 metres
- **After** – 350 metres



**Figure 2.** Laboratory markers (0 and 12 months)

|                               | 0 months | 12 months | % difference  |
|-------------------------------|----------|-----------|---------------|
| LVEF (%)                      | 22       | 44        | 100% increase |
| eGFR (mL/min)                 | 54       | 73        | 35% increase  |
| Heart rate (bpm)              | 99       | 87        | 13% decrease  |
| B-natriuretic peptide (pg/mL) | >100     | <50       | n/a           |

**Figure 3.** Assessment of Quality of Life – 8D (0 and 3 months)

| Before Entresto trial   | After Entresto trial  |
|---|---|
| Aqol 3: I cannot get around unless somebody is there to help  | Aqol 3: moderate difficulty                                       |
| Aqol 12: I sometimes have trouble sleeping  | Aqol 12: I never have trouble sleeping                            |
| Aqol 15: I have difficulty with mobility. I can go short distances only   | Aqol 15: I have some difficulty with mobility (e.g. going uphill) |
| Aqol 19: (re. washing, toileting, dressing, eating, self care) I find some of these tasks difficult but I manage to do them on my own | Aqol 19: I have no real difficulty carrying out these tasks       |
| Aqol 27: I am mainly content with my life   | Aqol 27: I am extremely content with my life                      |

## Conclusion and limitations

- This poster examined one case study out of 36 patients included in the free Entresto trial at Mackay Base Hospital. Due to the small patient pool, a future audit could be based on a collection of case studies from multiple treating centers.
- This case supports the emerging evidence and highlights the potential role of Entresto in HF management. Pharmacists can play an important role in the referral of eligible patients to be initiated on Entresto, whilst further assisting in safe titration.